Is Africa Different? Historical Conflict and State Development

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February 7, 2019

Abstract

We show new evidence that the consequences of historical warfare for state development differ for Sub-Saharan Africa. We identify the locations of more than 1,600 conflicts in Africa, Asia, and Europe from 1400 to 1799. We find that historical warfare predicts common-interest states defined by high fiscal capacity and low civil conflict across much of the Old World. For Sub-Saharan Africa, historical warfare predicts special-interest states defined by high fiscal capacity and high civil conflict. Our results offer new evidence about where and when "war makes states."

*We thank Idalia Bastiaens, Robert Bates, Catherine Boone, Peter Carroll, Christian Davenport, James Fearon, Nahomi Ichino, Eliana La Ferrara, James Morrow, Torsten Persson, James Robinson, Frances Rosenbluth, Kenneth Scheve, Peter Schram, Guido Tabellini, Warren Whatley, and seminar participants at APSA 2015, Bocconi, Caltech, EPSA 2015, George Mason, MPSA 2015, Michigan, Queen Mary, Stanford, UCL, and WEHC 2015 for helpful comments. We thank Heather Elliott, Maiko Heller, and Eric Payerle for research assistance, and the Department of Political Science at the University of Michigan for financial support.

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1 Introduction

State capacity matters for economic development (Besley and Persson, 2013, Acemoglu et al., 2015, Dincecco and Katz, 2016). The success of Asian Tiger nations speaks to the economic role that states can play (Wade, 1990, Evans, 1995, Kang, 2002). By contrast, poor nations in Sub-Saharan Africa face problems of weak state infrastructure and political instability (Migdal, 1988, Herbst, 2000).

But where does state capacity come from? A large literature argues that interstate competition between military rivals plays a key role in the long-run development of state capacity (Tilly, 1975, Mann, 1986, Brewer, 1989, Downing, 1992, Besley and Persson, 2009, Morris, 2014). According to this account, states undertake administrative reforms that increase extractive capacity and allow them to finance military efforts. As fiscal and military strength grows, states are better able to prevent civil war.

This standard account of warfare and state development centers on European history. Yet it is not clear whether the logic of "war makes states" is universal. To illustrate, take Sub-Saharan Africa.[1] Region-specific factors including low population density (Herbst, 2000) and colonization (Reid, 2014) may have thwarted the process by which warfare can build fiscal strength. Similarly, region-specific factors such as the transatlantic slave trade (Nunn, 2008) may have promoted the persistence of conflict. Beyond region-specific factors, the outcomes of historical warfare themselves, including "bad" political institutions (Hariri, 2012), ethnic fractionalization (Whatley and Gillezeau, 2011), and lack of social trust (Nunn and Wantchekon, 2011), may have affected the state development process in Sub-Saharan Africa. For such reasons, historical warfare may not predict greater extractive capacity or less civil conflict in Sub-Saharan Africa in the ways that the standard account suggests that it should.

To better understand the deep origins of state capacity, this paper analyzes the relationship between historical warfare and state development across continents. We assemble new data on the locations of more than 1,600 conflicts in Africa, Asia, and Europe between 1400 and 1799. We regress modern state development on historical warfare, a benchmark set of demographic and geographic controls, and fixed effects for continents. We focus on two key

[1] In the paper's title, we follow a convention in the literature (e.g., Herbst, 2000) that employs the term "Africa" as shorthand for "Sub-Saharan Africa." Throughout the paper's text, however, we always explicitly distinguish between Sub-Saharan Africa and North Africa.

state development outcomes: fiscal capacity and civil conflict.

Our results offer new evidence about where and when "war makes states." Using the typology of Besley and Persson (2014), we find that historical warfare predicts "common-interest states" defined by high fiscal capacity and low civil conflict across much of the Old World. For Sub-Saharan Africa, historical warfare predicts "special-interest states" defined by high fiscal capacity and high civil conflict. This evidence suggests that regional factors specific to Sub-Saharan Africa may have undercut the long-run process by which interstate warfare can improve domestic stability through greater fiscal strength.[2]

Our empirical strategy includes continental fixed effects and a benchmark set of demographic and geographic controls. Still, it is possible that omitted variables (e.g., proximity to waterways) that affect both historical warfare and state development explain our results. We use two strategies to test this possibility. The first strategy is to control for other observable country characteristics that are not likely to be outcomes of historical warfare themselves, including initial conditions (e.g., technological adoption levels), geographical features (e.g., malaria risk), colonial and legal origins, and artificial borders. We find that our results are robust to controls for these other observable characteristics. The second strategy is to test how likely it is that unobservable country characteristics explain our results. We find that, to explain away our results, the influence of unobservable features would have to be on average many times larger than the influence of the observed controls. This strategy provides further evidence that unobservable features cannot fully explain our results. We also perform a variety of other robustness checks. For example, we show that our results are robust to sample changes (e.g., including New World conflicts and countries). Similarly, we show evidence for intermediate state development outcomes.

The paper proceeds as follows. Section 2 presents the conceptual framework. Section 3 discusses the data. Section 4 describes the empirical strategy and main results. Section 5 performs robustness checks. Section 6 concludes.

[2]Our results support the evidence in Osafo-Kwaako and Robinson (2013), who use the Standard Cross-Cultural Sample (Murdock and White, 1969) to study political centralization in *pre-colonial* Sub-Saharan Africa relative to the rest of the world. Like us, they find that the logic of historical state development differed for this world region. Namely, there is a positive and significant correlation between warfare and political centralization for the whole world, but there is no such correlation for pre-colonial Sub-Saharan Africa.

2 Conceptual Framework

This section performs two tasks. First, we describe the standard account of warfare and state development in European history. We focus on two key implications of the standard account regarding fiscal capacity and civil conflict. Second, we discuss Sub-Saharan Africa in light of this standard account. We describe contrasting views in the African history literature about whether the standard account can apply to this region. This lack of scholarly consensus motivates our empirical analysis.

2.1 Warfare and State Development

Tilly (1992, table 3.1) estimates that major powers in Europe were at war 78 to 95 percent of all years from 1500 to 1800. Rulers saw clear upsides from military victory, including royal glory, but faced few risks from defeat (Cox, 2011). Battle loss did not generally cost rulers their thrones until 1800, when Napoleon began to replace monarchs that were defeated (Hoffman, 2012). Rulers thus had incentives to launch frequent wars.

To defend against survival threats from rivals, states made fiscal innovations that secured new and more regular sources of taxation (Tilly, 1975, 1992). Mann (1986) shows that major increases in revenues in England from 1688 to 1815 corresponded with the onset of wars. Gennaioli and Voth (2015) find a positive and significant relationship between interstate conflicts and state consolidation in Europe between 1500 and 1800. Dincecco and Prado (2012) show that fiscal capacity today is greater for countries that fought more wars between 1816 and 1913.

The "ratchet effect" is one mechanism through which fiscal innovations may persist over time (Rasler and Thompson, 1985). Expanding and regularizing tax systems involves fixed costs. Once states have established stronger fiscal institutions, the marginal costs of sustaining them can be low. Thus, greater wartime tax revenues may not fall to pre-war levels once conflict ends. If external threats are recurrent, then fiscal capacity may increase in ratchet-like steps.

Interstate military competition may eventually create the conditions for domestic political stability (Tilly, 1992, Morris, 2014). Bates (2009) describes two mechanisms through which early modern states could reduce civil violence: repression and enticement. As fiscal and military strength grew, states were better able to impose widespread security. Monar-

chs could enforce local peace agreements and demilitarize rural warlords. They could also co-opt local elites through court favors and privileges. The establishment of parliaments was another way to give local elites a stake in the state's success. Thus, we may observe the "anti-persistence" of civil conflict over the long run (Fearon and Laitin, 2014).

The standard account of warfare and state development yields two key implications. First, historical warfare should produce greater fiscal capacity today. Second, it should reduce civil conflict. Thus, in the typology of Besley and Persson (2014), the standard account implies that historical warfare should predict "common-interest states."

2.2 Sub-Saharan Africa

A first set of views in the African history literature supports the standard account that "war makes states." Herbst (2000) argues that the consequences of warfare for state development in pre-colonial Africa were muted, not because of an inherent flaw in the "war makes states" argument, but because there was simply less conflict there than in early modern Europe. Still, Bates (2014) finds a positive relationship between military competition and state centralization within Sub-Saharan Africa during the pre-colonial period.[3] Furthermore, there is evidence that the legacy of early political structures persisted over time. Gennaioli and Rainer (2007) and Michalopoulos and Papaioannou (2013) show that state centralization in pre-colonial Africa predicts public goods provision and economic development today. Similarly, Depetris-Chauvin (2014) finds that pre-colonial state strength reduces current civil conflict in Sub-Saharan Africa.

A second set of views suggests that the standard account of war-related state building should not apply to Sub-Saharan Africa. Scholars point to at least three region-specific factors that may make Sub-Saharan Africa distinct from other parts of the Old World: political geography, the transatlantic slave trade, and colonialization.

A first potential factor is political geography. Population density in 1500 was 14 people/sq km in Europe, 8 people/sq km in the Ottoman Empire, 13 people/sq km in China, and 46 people/sq km in Japan, but only 2 people/sq km in Sub-Saharan Africa (Herbst, 2000, Table 1.1). In this land-rich but labor-scarce environment, the main goal of warfare was to capture people rather than territory. Thornton (1999, p. 16) writes: "Indeed, ownership

[3]By contrast, Osafo-Kwaako and Robinson (2013) find no such correlation. They analyze pre-colonial Sub-Saharan Africa relative to the rest of the world.

of slaves in Africa was virtually equivalent to owning land in Western Europe or China." The most common type of pre-colonial conflict, called the raiding war, reflects Sub-Saharan Africa's political geography. In contrast to the European-style campaigning war, defined by large-scale operations and set-piece battles, the raiding war was characterized by repeat assaults on the enemy (Reid, 2012). This type of warfare did not conclude with final surrender, creating the potential for open-ended conflict (Klein, 1972).

A second potential factor is the transatlantic slave trade. Curtin (1975) and Eltis (1987) argue that the slave trade was an outgrowth of pre-colonial conflicts over people. Other scholars claim that the combination of the New World demand for slaves and a new gunpowder technology – known as the gun-slave cycle – increased raiding wars and slave exports (Rodney, 1972, Inikori, 1982, Law, 1991, Whatley, 2012). Fenske and Kala (2017) show that, in regions that became dependent on slave exports, disruptions to the slave trade produced increases in intra-African conflict.

A third potential factor is European colonialization. The "Scramble for Africa" began in the 1880s and lasted through the start of World War I. Reid (2014) argues that there was a nineteenth-century military revolution in Sub-Saharan Africa akin to the military revolution in early modern Europe. The colonial peace prevented this revolution from running its natural course, creating the conditions for persistent conflict (Bates, 2014, Reid, 2014). Another argument highlights the artificial borders that colonial powers established, which did not correspond with pre-colonial borders. Michalopoulos and Papaioannou (2016) show that civil conflict in Africa today is greater in areas where ethnic groups were artificially partitioned by colonizers. Similarly, Fearon and Laitin (2014) find that post-1945 civil conflict in Africa is greater in places that saw nineteenth-century colonial wars.

Political geography, the transatlantic slave trade, and colonialization are all potential reasons why we may not observe state development and the "anti-persistence" of civil conflict in Sub-Saharan Africa. Beyond such region-specific factors, the outcomes of historical warfare themselves may explain why Sub-Saharan Africa may differ in this regard. A first potential outcome is "bad" political institutions. Autocracy was a common form of rule in pre-colonial states outside of Europe (Hariri, 2012). Early states were either strong enough to prevent colonization, or were colonized under indirect rule, which may have strengthened

local autocrats (Mamdani, 1996, Lechler and McNamee, 2017).[4] Thus, early statehood could translate into autocracy today (Hariri, 2012). States that lack democratic institutions may be more likely to witness political violence (Besley and Persson, 2011). A second potential outcome is ethnic fractionalization. Whatley and Gillezeau (2011) argue that the transatlantic slave trade made Africans more valuable as slaves than as taxpayers. Thus, there was a greater incentive by social groups to conduct slave raids and less incentive to strengthen states. A key consequence of the slave trade was the creation of smaller and more independent villages, which promoted ethnic divisions (Whatley and Gillezeau, 2011). There is a large literature that links ethnic fragmentation with civil conflict (e.g., Montalvo and Reynal-Querol, 2005). A third potential outcome is a lack of social trust. Besley and Reynal-Querol (2014) argue that social groups with a history of fighting can be less trustful of each other. A lack of social trust can translate into greater civil conflict, particularly if social groups used violence to produce slaves for export (Nunn, 2008, Nunn and Wantchekon, 2011, Fenske and Kala, 2015). Furthermore, conflict experience can endow ethnic groups with "martial institutions," which may be passed from one generation to the next and make conflict more likely to persist (Jha and Wilkinson, 2012). Bates (2008) and Reid (2012) argue that pre-colonial warfare in Sub-Saharan Africa has important consequences for civil conflict today, while Besley and Reynal-Querol (2014) show econometric evidence that greater *pre-colonial* conflict in Africa is linked with greater *post-colonial* conflict.[5]

Greater civil conflict may increase the likelihood that the government is captured by a specific social group. Even if fiscal capacity is relatively high, this type of state may lack inclusive-style political institutions that can reduce civil conflict, creating a vicious circle (Besley and Persson, 2014). Acemoglu et al. (2010) argue that high fiscal capacity and high civil conflict can feed off of each other as follows. When fiscal capacity is high, the military will gain greater economic power if it undertakes a coup. To reduce the likelihood of a coup, the civilian government has an incentive to limit military strength, which reduces the state's monopoly on security and makes it more likely that civil conflict will persist.

Overall, our discussion indicates that there is scholarly debate about the extent to which the standard account of warfare and state development may apply to Sub-Saharan Africa.

[4]By contrast, new labor market access under colonialism may have helped reduce the political power of traditional political elites (Selhausen et al., 2018).

[5]Boone (2014) argues that land-related conflicts in modern-day Africa can actually be an outcome of state-building efforts. Heldring (2014) finds that greater state capacity led to more conflict in 1990s Rwanda.

To frame this debate in the typology of Besley and Persson (2014), historical warfare may not predict "common-interest states" defined by high fiscal capacity and low civil conflict in Sub-Saharan Africa. Rather, it may predict "special-interest states" defined by high fiscal capacity and high civil conflict, or "weak states" defined by low fiscal capacity and high civil conflict. Our empirical analysis will test between these contrasting views in the literature.

3 Data

3.1 Historical Conflict

To proxy for historical interstate military competition, given data limitations, we use historical conflict data. The logic here is that, historically, greater war prevalence was positively linked with greater external threats. Our historical conflict data are from Brecke (1999). This unique database provides an expansive list of violent conflicts worldwide from 1400 to the present. To compile this database, Brecke uses roughly 80 sources, including dictionaries and encyclopedias, scholarly books and compilations, and non-English language works. For Sub-Saharan Africa, Brecke's sources include Freeman-Grenville (1973), Ajayi and Crowder (1985), and McEvedy (1995).

Brecke's database defines violent conflict according to Cioffi-Revilla (1996).[6] It includes all recorded violent conflicts with a magnitude of 1.5 or higher on Richardson's (1960) base-10 log conflict scale. As a review of Brecke's source materials will attest, "external" conflicts that took place between historical states, broadly defined, form the bulk of this database.

For each conflict, Brecke's database lists belligerents and years, along with supporting information. For example, one entry reads "Akwamu-Accra (Ghana), 1660." We use this information to identify the modern country in which each conflict took place (in this example, Ghana). Another entry reads "England-France, 1475." This entry refers to Edward IV's invasion of Calais. We thereby assign this conflict to France. While this coding scheme overlooks conflicts that are fought outside a country's soil, but which may still increase that country's fiscal capacity (e.g., England in 1475), we view it as the most straightforward way to operationalize the argument that external threats drove institutional reforms.[7] We focus

[6]This definition is: "An occurrence of purposive and lethal violence among 2+ social groups pursuing conflicting political goals that results in fatalities, with at least one belligerent group organized under the command of authoritative leadership."

[7]Similarly, we lack accurate enough data to code the modern country of origin for each belligerent participant.

on historical land-based warfare in the Old World: conflicts on the continents of Africa, Asia (including the Middle East), and Europe. The main regression analysis excludes the Americas for two reasons. First, the pre-colonial period ended several hundred years prior in the Americas than in Sub-Saharan Africa, reducing the relevancy of comparison. Second, unlike Asia, which forms part of the same land mass as Europe (upon which the standard account of warfare and state development centers), the Americas are obviously non-contiguous with Europe, and are divided by the Atlantic Ocean. Nonetheless, we will include historical land-based conflicts in the Americas in the regression analysis as a robustness check.

Scholars have made wide use of Brecke's database. Iyigun (2008) tests the effects of Ottoman military engagements on Catholic-Protestant conflicts in European history. Parker (2008) and Zhang et al. (2011) link climate change to the seventeenth-century "global crisis" of state breakdowns. Besley and Reynal-Querol (2014) test the historical legacy of conflict in Africa. Fearon and Laitin (2014) study conflict persistence from 1816 onward. Other scholars that use Brecke's database include Michalopoulos and Papaioannou (2016), Pinker (2011), Lagerlöf (2014), and Morris (2014).

Brecke's database may not record all historical conflicts. Still, the scale and scope of this database makes it likely that it includes the most important conflicts as documented by historians. A related concern is that the quality of historical data may differ across world regions. For example, the literature on historical warfare in Sub-Saharan Africa is small (Reid, 2014). Furthermore, the nature of African warfare – raiding wars as compared to European-style campaigning wars – may make it less amenable to documentation. For these reasons, Brecke's database may not adequately record all African conflicts. However, any attempt to add conflicts from other sources would be selective, because most available sources have a regional focus (e.g., Thornton, 1999). To help account for differences in data quality across world regions, our regression analysis will always include continental fixed effects.

There are two reasons why we code conflicts according to modern borders (Fearon and Laitin, 2014). First, given that our goal is to better understand cross-country variation in current state development, it makes sense to take modern nation-states as our unit of anal-

To the extent that participants in raiding wars in Sub-Saharan Africa were located within the borders of the same modern country, however, then our coding scheme should accurately reflect such historical conflicts. For example, both the Kingdom of Kongo and the Ambundu Kingdom were located (at least in part) within the modern country of Angola, and, according to Brecke, the 1514 conflict "Kongo-Ambundu (northwest Angola), 1514" took place there.

ysis. Second, the country-level approach is feasible. Many of the covariates that we want to include in our analysis – both historically and today – are only available at this level. Endogenous borders that emerge as a response to conflict outcomes do not present a problem for our analysis, because we fix modern borders and project them backward in time. Thus, the measurement of contemporary and historical variables for each country rely upon the same borders.[8]

Our main historical conflict variable computes the share of years from 1400 to 1799 in which a country experienced conflict on its soil. This measure of historical conflict is widely comparable across countries.[9] As an alternative variable, we compute the share of years over this period in which a country experienced the *start* of conflict on its soil.[10]

We focus on the pre-1800 period for two reasons. First, this periodization draws on Besley and Reynal-Querol (2014), who also define "pre-colonial" warfare in terms of pre-nineteenth century conflicts.[11] Second, our focus on pre-1800 warfare captures "traditional" warfare in Europe, prior to fundamental changes in military technology over the nineteenth century including the development of the railway and the invention of the telegraph (Onorato et al., 2014). Thus, excluding nineteenth-century conflicts improves the comparability of our analysis across different parts of the Old World.

Table 1 summarizes the historical conflict data.[12] 1,654 recorded conflicts took place from 1400 to 1799, for an average of 414 per century. Consistent with the state formation literature, Europe saw the most warfare over this period (807 conflicts), followed by Asia (520), Sub-Saharan Africa (229), and North Africa (98). Figure 1 maps our main historical conflict variable across the Old World.

[8]This approach is similar to dividing continents into square grids (e.g., 100 x 100 km). As described, an advantage of using modern borders is that far more covariates are available at the country level than at the grid cell level.

[9]Large conflicts may lead to greater fiscal reforms than small conflicts. To measure conflict intensity, one could use casualty totals (Dincecco and Prado, 2012), but these data are only available for about one-third of Brecke's conflicts. A second possibility is to incorporate conflict durations in days or months. However, specific start and end dates are not available for over 70 percent of the Brecke data.

[10]The main results ahead remain robust if we code historical conflict as $\log(1 + Conflict_i)$ to reduce the influence of outliers, or control for historical conflicts fought in neighboring countries (not shown to save space).

[11]Besley and Reynal-Querol (2014) focus on conflicts between 1400 and 1700. We extend this periodization to include the eighteenth century. However, as we show ahead, our main results are robust if we restrict the historical conflict data to 1400-1700 (Table 7) or 1400-1600 (Appendix Table A9).

[12]These statistics use the conflict start variable to avoid double-counting, since some conflicts spill over from one century into the next.

3.2 Fiscal Capacity

We compute our main variable, the share of income taxes in total taxes, according to data from the IMF World Revenue Longitudinal Database (2015). These data start in 1990 and end in 2014. We average them across all available years over this period.[13]

There are several reasons why the income tax share is a particularly meaningful measure of fiscal strength. Lindert (2004) and Besley and Persson (2013) note a striking similarity between the historical evolution of fiscal systems and current differences in fiscal systems between rich and poor countries. As states developed stronger fiscal systems over time, there was a shift from indirect taxes such as trade taxes toward direct taxes such as income taxes. The collection of income taxes requires much greater administrative capacity to effectively monitor and enforce tax payments than does the collection of indirect taxes such as customs taxes at ports (Tilly, 1992). Furthermore, rich countries today depend to a greater extent on income taxes than do poor countries, which rely heavily on trade taxes (Besley and Persson, 2013). The reliance on trade taxes by African governments has generated inadequate revenues both historically and today, making it difficult for African states to provide basic public goods and services such as security, school books, and roads that promote development (Herbst, 2000).

We compute three alternative fiscal capacity variables according to the IMF data. These data are averaged over all available years between 1990 and 2014. The first alternative is the share of direct taxes (i.e., income taxes, payroll and workforce taxes, social contributions, and property taxes) in total taxes. This measure is similar in spirit to our main variable. The drawback is that there are many missing observations. The second alternative is the ratio of income taxes to GDP. The final alternative is government size, measured as the ratio of total tax revenues to GDP.

3.3 Civil Conflict

We take our civil conflict variables from Besley and Persson (2011). Our main variable computes the share of years from 1950 to 2000 in which a country experienced a civil war, as counted for each year in which conflict deaths of the government and/or its domestic ad-

[13]This version of the paper uses updated fiscal data relative to the previous on (i.e., Dincecco et al., 2014). Thus, the results for fiscal capacity have changed somewhat, though the overall interpretation remains similar as before.

versary exceeded 1,000.[14]

A set of two alternative variables incorporates purges, as defined by at least one murder of a political opponent by the standing government in the span of one year. Combining these data sources, Besley and Persson generate two variables for political violence: an ordered variable that equals 0 for years of peace, 1 for years of purges without civil war, and 2 for years of both purges and civil wars; and a dummy variable that equals 1 if the ordered variable equals 1 or 2. We use these variables to compute average scores for political violence between 1945 and 2000.

4 Empirical Strategy and Main Results

4.1 Empirical Strategy

We use OLS to estimate:

$$y_i = \alpha + \beta Conflict_i + \delta Conflict_i \times Africa + x_i' \gamma + \mu_j + e_i, \quad (1)$$

where i indexes countries. y_i denotes one of our measures of fiscal capacity or civil conflict today. $Conflict_i$ is one of our measures of historical conflict. $Conflict_i \times Africa$ interacts historical conflict with a dummy variable for Sub-Saharan Africa. x_i is a vector of baseline controls to be described ahead. μ_j are fixed effects for Asia, Europe, North Africa, and Sub-Saharan Africa.[15] e_i is a random error term. Our coefficients of interest are β, the estimated relationship between historical warfare and current state development for the Old World apart from Sub-Saharan Africa (i.e., Asia, Europe, and North Africa), and δ, the estimated relationship between historical warfare and current state development for Sub-Saharan Africa *relative* to the impact for the rest of the Old World (i.e., δ measures the extent to which the estimated relationship for Sub-Saharan Africa differs from β).

The vector x_i denotes a benchmark set of controls that we include in all regressions. We choose benchmark controls according to Ashraf and Galor (2011) that are unlikely to be shaped by developments after 1500. To account for initial demographic conditions, we in-

[14] As we discuss ahead, the main results remain robust if we employ the UCDP/PRIO Armed Conflict Database (2018) to recompute this variable for alternative periodizations such as 1960-2014 (Appendix Table A10).

[15] For ease of exposition, we henceforth refer to them as "continental" fixed effects, even if North Africa is obviously a region rather than a continent.

clude log population density in 1500 and the log timing of the Neolithic Revolution, defined to have taken place when a majority of the country's population began to practice sedentary agriculture as the primary mode of subsistence. To account for country-level geographic features, we always include log land suitability for agriculture, log absolute latitude, and total land area. Appendix Table A1 displays the descriptive statistics for the main regression variables.

4.2 Main Results

Table 2 presents our estimates for the relationship between historical warfare and fiscal capacity. As described, all regressions include a full set of continental dummies and the benchmark set of controls. Column 1 shows the result for our main fiscal capacity variable, the income tax share. The estimated coefficient for the rest of the Old World is positive in sign and statistically significant, while the interaction effect suggests that Sub-Saharan Africa is not significantly different in this regard. We cannot reject the null hypothesis that the sum of the coefficients for $Conflict_i$ and $Conflict_i \times Africa$ equals zero (the F-statistic is 1.364, with a p-value of 0.246). Given that the coefficient for $Conflict_i$ is more than five times the absolute value of the coefficient for $Conflict_i \times Africa$, however, this result is due to the large standard error on the interaction term, and not to a large negative coefficient.

Columns 2 to 4 use our alternative fiscal capacity variables: the direct tax share, the income tax-to-GDP ratio, and government size (i.e., the total tax-to-GDP ratio). The result for the direct tax share in column 2 is similar to column 1 for the rest of the Old World. There is a positive and significant correlation between historical warfare and fiscal capacity. For Sub-Saharan Africa, the coefficient turns positive, but still does not differ significantly from the rest of the Old World. This pattern continues to hold when we take the income tax-to-GDP ratio as the outcome variable in column 3. The coefficient for $Conflict_i$ loses significance, however, in the specification in column 4 in which the outcome is government size (the coefficient for $Conflict_i \times Africa$ remains insignificant). Taken together, these results suggest that the main consequence of historical warfare is for fiscal strength, rather than for overall government size.

Column 5 repeats the column 1 specification for our alternative historical conflict variable: the share of years in which a country experienced the start of conflict. The results for fiscal capacity are again positive and significant for the rest of the Old World, and are not

significantly different for Sub-Saharan Africa.[16]

Table 3 presents our estimates for the relationship between historical warfare and civil conflict. Column 1 uses our main variable, the share of years of civil war between 1950 and 2000. Columns 2 and 3 use our alternative variables for average political violence (ordered and dummy, respectively). Column 4 repeats the column 1 specification for the alternative historical conflict variable as described before. The results are robust across all specifications. The estimated coefficients for Sub-Saharan Africa are always positive and statistically significant, while the coefficients for the rest of the Old World are never significant.[17] Each column reports the F-statistic for the test of the hypothesis that the sum of the coefficients for $Conflict_i$ and $Conflict_i \times Africa$ equals zero. The p-values range from 0.011 to 0.026, indicating that we can reject this null hypothesis. These results further suggest that the positive correlation between historical warfare and civil conflict today is present for Sub-Saharan Africa, but not for the rest of the Old World.

In Appendix Table A3, we show that the main results in Tables 2 and 3 do not change if we include interaction terms for Asia and North Africa (relative to Europe, the omitted category). The coefficients for $Conflict_i \times Asia$ are never significant. The coefficient for $Conflict_i \times NorthAfrica$ is not significant for the main fiscal capacity specification, but is positive and significant for the main civil conflict specification (here, the coefficient magnitude is smaller than for $Conflict_i \times SubSaharanAfrica$).

Overall, the results in Tables 2 and 3 support the argument that historical warfare has significant consequences for state development. We find a positive correlation between historical warfare and current fiscal capacity for the Old World.[18] The estimates from column 1 of Table 2 indicate that a one standard deviation increase in the share of years of historical conflict for a country in the rest of the Old World is associated with a 0.357 standard devia-

[16]For robustness, we use two non-fiscal alternatives in Appendix Table A2. The first is the government anti-diversion score according to the International Country Risk Guide (2010). This measure averages the index scores in 1997 for the following categories: law and order, bureaucratic quality, corruption, risk of expropriation, and government repudiation of contracts. The second is the Brookings Institution's state weakness score according to Rice and Patrick (2008). In each case, the coefficient for $Conflict_i$ is positive and significant, while the coefficient for $Conflict_i \times Africa$ is not significantly different.

[17]For robustness, we estimate the specification in column 1 of Table 3 for a similar sample as our main fiscal capacity variable (the civil conflict and fiscal capacity variables overlap for 106 out of 110 total observations). The results are very similar in magnitude and significant to the reported results (not shown to save space).

[18]This result is consistent with the first-stage result in Dincecco and Prado (2012), who find that greater wartime participation between 1816-1913 predicts larger fiscal capacity today.

tion increase in the share of tax revenues that it gathers from income taxes. For Sub-Saharan Africa, a one standard deviation increase in the share of years of historical conflict translates into a 0.292 standard deviation increase in the income tax share. The positive correlation between historical warfare and civil conflict today that we find for Sub-Saharan Africa, and for this region only, however, suggests that Africa may be different. Our estimate from column 1 of Table 3 indicates that a one standard deviation increase in the share of years of historical conflict is associated with a 1.549 standard deviation increase in post-1950 civil conflict in Sub-Saharan Africa. For the rest of the Old World, our results show evidence consistent with the "anti-persistence" of conflict.

The typology in Besley and Persson (2014) provides an intuitive way to interpret our results. We find that historical warfare predicts "common-interest states" defined by high fiscal capacity and low civil conflict across much of the Old World. For Sub-Saharan Africa, we find that historical warfare predicts "special-interest states" defined by high fiscal capacity and high civil conflict.

5 Robustness

The significant correlations that we document in the previous section are consistent with the argument that historical warfare is linked with greater fiscal capacity across the Old World. We also document another feature of historical warfare that is particular to Sub-Saharan Africa: conflict persistence. However, these correlations could be explained by omitted variables that influence both historical warfare and state development outcomes today. For example, if other geographical features such as terrain ruggedness influence patterns of historical warfare, and if such features have implications for current fiscal capacity or civil conflict, then they could generate positive relationships between historical conflict and current outcomes.

In this section, we use several strategies to test the robustness of our results. First, we control for a range of observable country characteristics beyond our baseline controls that may be correlated with historical warfare and state development outcomes today. Second, we test how likely it is that our results are driven by unobservable country features. We also test whether our estimates are robust to sample changes, and show evidence for intermediate outcomes.

5.1 Further Controls for Observables

Table 4 presents our estimates for historical warfare and fiscal capacity with additional controls.

A new quantitative literature analyzes the underlying logic and divergent patterns of fiscal development across colonial Africa, along with the implications for modern-day differences in fiscal capacity (Mkandawire, 2010, Frankema, 2011, Gardner, 2012, Frankema and van Waijenburg, 2014, Huillery, 2014, van Waijenburg, 2018). Frankema and van Waijenburg (2014), for example, examine how local economic and geographic conditions influenced fiscal development paths in British and French Africa. We view our analysis of the *pre-colonial* origins of state capacity as complementary to this recent body of work on the colonial origins. Still, different features of colonial rule by Europeans, rather than pre-colonial conflict, may predict fiscal capacity outcomes in Sub-Saharan Africa today. We thus control for colonial features in several ways.

Column 1 adds colonial dummies for British, French, Portuguese, Spanish, and other European colonizers according to Nunn and Puga (2012) to the benchmark specification that includes a full set of continental dummies and the benchmark set of controls. The results for both the rest of the Old World and for Sub-Saharan Africa closely resemble the benchmark case (i.e., column 1 of Table 2).

Column 2 repeats this specification for a key feature related to colonial rule: the creation of artificial borders. We control for this feature according to Alesina et al. (2011), who measure the straightness of a country's land borders. Borders that resemble straight lines are likely to be artificially drawn, while borders that resemble uneven lines are likely to correspond with natural features (e.g., rivers). The results remain robust to this control.[19]

Column 3 repeats this specification for legal origins, another feature related to colonial rule. We include dummy variables for British and French legal origins according to Ashraf and Galor (2011). The results are again similar.[20]

[19]Similarly, in Table A4 of the appendix, we account for ethnicity in two ways. First, we add the control for ethnic fractionalization from Alesina et al. (2002). Second, we control for ethnic dominance in terms of whether a single language is spoken by at least half of the country's population according to data taken from the Joshua Project. The main results in Tables 4 and 5 are robust to both controls.

[20]To the extent that the particular form of colonial rule influences post-independence interventions by past colonizers (e.g., the relationship between Benin and France), then the colonizer dummies should account for this possibility. For robustness, we control for two other features that help proxy for the autonomy of newly-

Our baseline set of controls includes two measures of initial conditions: log population density in 1500 and the log timing of the Neolithic Revolution. It may be the case that initial technology levels influenced both the likelihood of historical conflicts and the development of fiscal capacity. To account for initial technological conditions, we include a measure of technological adoption levels in 1500 from Comin et al. (2010). Gennaioli and Rainer (2007) and Michalopoulos and Papaioannou (2013) link pre-colonial state centralization in Africa with better public goods provision and economic performance today. Initial state strength may have also influenced the ability of states in Sub-Saharan Africa to survive colonialization (Englebert, 2000). To account for pre-colonial state centralization, we include a measure of state antiquity in 1500 according to Bockstette et al. (2002). Column 4 shows the results with these additional controls. The coefficient estimates remain robust, even though the number of observations falls from 110 to 75 due to a lack of available data.[21]

Column 5 repeats this analysis for additional geographic controls beyond those included in our benchmark set (i.e., log land suitability for agriculture, log absolute latitude, and total land area). Specifically, we add controls for the share of a country's population at risk for malaria, the population share that lives in tropical zones, the average distance to the nearest waterway (sea-navigable river or coast), the average distance to the nearest coast, terrain ruggedness, the share of land that is desert, and a proxy for natural resource wealth (i.e., gem diamond extraction) according to Ashraf and Galor (2011) and Nunn and Puga (2012). The results continue to hold.[22]

independent nations in Appendix Table A5. To account for Cold War alliances, we control for vote affinity with the United States across roll-call votes in the UN General Assembly between 1946-1989 according to Strezhnev and Voeten (2013). To proxy for leadership quality, we control for the share of years between 1946-2000 for which a nation's leader is highly educated according to Besley and Reynal-Querol (2011). The main results in Tables 4 and 5 remain robust.

[21]In Appendix Table A6, we account for the historical role of indigenous slavery in Sub-Saharan Africa in two ways. First, we control for the historical presence of the institution of indigenous slavery according to Bezemer et al. (2014). Second, we control for log slave exports according to Nunn (2008). For simplicity, we code this variable as zero for all non-African sample nations. If slavery was broadly more important in Asia or Europe relative to Africa, then continental fixed effects should help capture such differences. The main results in Tables 4 and 5 are robust to both controls.

[22]For robustness, we control for two other geographic variables in Appendix Table A7. Iliffe (2007) suggests that border zones between forests and savannas in Africa could be prone to more conflict. To proxy for ecological diversity, we compute one minus the Herfindahl index of the different ecological zones in each country according to GAEZ (Fischer et al., 2000, Plate 55). To further control for natural resource wealth, we include average oil production between 1980-2012 according to the EIA (2013). The main results in Tables 4 and 5 are unchanged in both cases. Finally, to the extent that geography (e.g., terrain ruggedness) influences the type of colonial independence movement (Garcia-Ponce and Wantchekon, 2017), then the geographic controls account for this possibility.

Column 6 includes all of the controls described in columns 2 to 5, with the exception of the variables for other initial conditions, which we exclude because the number of observations is small. The results resemble the previous specification in terms of magnitude and significance.[23]

Table 5 repeats the robustness checks with additional controls for historical warfare and civil conflicts. The coefficient values for Sub-Saharan Africa are always positive and significant in columns 1 through 6, with point estimates similar in magnitude to the benchmark case (i.e., column 1 of Table 3). As for the main results, the coefficients for the rest of the Old World are never significant.[24]

While the addition of new controls cannot rule out omitted variable concerns, the results are robust. This exercise reinforces our main results, namely that there is a positive and significant relationship between historical warfare and fiscal capacity throughout the Old World, and that historical conflicts predict current civil wars, but only in Sub-Saharan Africa.

5.2 Potential Bias from Unobservables

Even though we control for a wide variety of potential omitted variables, the results in Tables 4 and 5 could still be biased by unobservable features that influence both historical warfare and modern state development. To address this concern, we compute a measure based on Altonji et al. (2005), Bellows and Miguel (2009), and Nunn and Wantchekon (2011) that estimates how much greater the influence of any unobservable features would have to be, relative to the observed controls, to fully explain away the previous set of results.

Specifically, this measure computes the ratio $\hat{\beta}^f / (\hat{\beta}^r - \hat{\beta}^f)$ according to the coefficients for our variables of interest ($Conflict_i$ and $Conflict_i \times Africa$) for two regressions, the first of which includes the covariates for a "restricted" set of controls (which we label $\hat{\beta}^r$), and the second of which includes the covariates for a "full" set of controls (which we label $\hat{\beta}^f$). The logic is that, the greater the ratio, the larger that selection on unobservable features must be

[23] As an alternative way to control for unobservables, we include fixed effects for 14 macro-geographical regions according to the UN Statistics Division in Appendix Table A8. The main results in Tables 4 and 5 remain qualitatively similar.

[24] Our results suggest that conflict locations in Sub-Saharan Africa persist from the pre-colonial period to the present. Ideally, we want to know whether the same groups that fought in the past continue to fight today. To proxy for migration patterns, we control for a country's share of foreign migrants in total population in 1960 as compiled by Ashraf and Galor (2011). The main result in Table 5 is robust to this control (not shownto save space).

to fully explain away our estimates.

We test two sets of restricted covariates. The first includes no controls, and the second our benchmark set of controls. We test five sets of full covariates: (1) the baseline set of controls, (2) colonial origins, (3) legal origins, (4) other initial conditions, and (5) additional geographic controls. These sets of covariates are described in the previous section. We test in (1) for the specification in which the restricted set of covariates includes no controls, and in (2) to (5) for the specification in which the restricted set includes the benchmark set of controls. In total, there are five combinations of restricted and full covariates for which we can calculate ratios.

Table 6 presents the ratios for our main fiscal capacity and conflict variables for $Conflict_i$ (Panel A) and $Conflict_i \times Africa$ (Panel B). Recall that we find two main results: a positive and significant relationship between historical warfare and current fiscal capacity throughout the Old World, and a negative and significant relationship between historical warfare and current civil wars for Sub-Saharan Africa only. Thus, we focus our attention here on column 1 of Panel A and column 2 of Panel B, respectively. None of the five reported ratios in column 1 of Panel A are between 0 and 1. Out of the four positive ratios, the mean value is 46.289. These results suggest that, to fully explain away the positive correlation between historical warfare and fiscal capacity today, the influence of unobservable features would have to be on average 46 times greater than observable features. The remaining ratio is negative, which indicates that the coefficient of interest actually increases in magnitude once a fuller set of covariates is included. Similarly, none of the reported ratios in column 2 of Panel B fall between 0 and 1. Among the positive ratios, the mean value is 22.341, suggesting that the influence of unobservable features would have to be on average 22 times greater than observable features to fully explain away the positive correlation between historical warfare and civil conflict today.

Overall, we view this exercise as further evidence that unobservable features cannot fully explain our estimates.

5.3 Alternative Samples

As another set of robustness checks, we re-run our main specifications for a variety of different samples.

The Scramble for Africa by European colonizers did not begin until the late nineteenth century. Still, white settler communities in Sub-Saharan Africa (e.g., in South Africa) began in the eighteenth century. To account for the potential role of eighteenth-century colonialism in Sub-Saharan Africa, columns 1 and 2 of Table 7 exclude eighteenth-century wars and recompute our main historical conflict variable for 1400 to 1700. The key estimates for fiscal capacity (column 1) and civil conflict (column 2) are similar in magnitude and significance as the benchmark case.[25] As an alternative strategy, columns 3 and 4 exclude South Africa, the most prominent white settler community. The results are also robust to this sample change.[26]

Russia and China are much larger than many other sample countries (Figure 1). Recall that our regression analysis always controls for total land area. Still, to further test for the influence of Russia and China, columns 5 and 6 exclude them from the main specifications. The results are again robust.

Columns 7 and 8 add in conflicts and countries in the Americas, for which Brecke (1999) records 96 conflicts from 1400 to 1799. The point estimate for the coefficient for $Conflict_i$ falls for fiscal capacity (column 7), but remains significant, which suggests that the logic of "war makes states" may also apply to the New World. This result complements the evidence in Thies (2005), who finds a positive relationship between interstate rivalry and fiscal capacity in twentieth-century Latin America. The other key estimates continue to hold.

Finally, Besley and Reynal-Querol (2014, pp. 327-8) note that Angola is important to their cross-country results for conflict persistence in Africa. The coefficient for $Conflict_i \times Africa$ remains positive and large relative to the rest of the Old World but loses significance when we exclude Angola from the main civil conflict specification (Appendix Table A11). However, Besley and Reynal-Querol study the whole of Africa rather than Sub-Saharan Africa only. If we follow their approach and code the interaction term for Africa as a whole, then the coefficient for $Conflict_i \times Africa$ remains significant when we exclude Angola from the main civil conflict specification. Furthermore, the qualitative evidence supports the view for

[25]In Appendix Table A9, we compute yet another alternative periodization for our main historical conflict variable: 1400-1600. The main results remain robust.

[26]Similarly, in Appendix Table A10, we employ the UCDP/PRIO Armed Conflict Database (2018) to compute the main civil conflict variable for three alternative periodizations: 1960-2014, 1960-90, and 1990-2014. The coefficient for $Conflict_i \times Africa$ remains positive and highly significant for both 1960-2014 and 1960-90, but just misses statistical significance for 1990-2014. Thus, the Cold War period appears to be particularly important to the civil conflict result.

conflict persistence in Angola. Henderson (1979, ch. 3) argues that civil conflict in Angola has deep historical roots, writing: "We can conclude...that the slave trade was the single most important cause of conflict during 400 years of Angola's history. [p. 98]" Similarly, Chabal (2008) highlights the relationship between pre-colonial power structures and modern civil conflict in Angola.

5.4 Intermediate Outcomes

As a final robustness check, we show evidence that historical warfare influences state development outcomes at an intermediate point in time. This evidence suggests that the relationships that we document between historical warfare and current state development are not just arbitrary correlations between certain historical events and certain modern outcomes.

For the intermediate outcome for fiscal capacity, we use cumulative railway kilometers built by 1910, just prior to the start of World War I, according to Mitchell (2007a,b,c). We view this measure as a proxy for the "infrastructural power" of the state (Mann, 1986). This variable has the key advantage over fiscal variables of being widely available across sample countries at the start of the twentieth century. For the intermediate outcome for civil conflict, we use the share of years from 1850 to 1899 in which Sub-Saharan African countries experienced intra-African conflict (i.e., conflict in which all belligerents were African) according to Fenske and Kala (2017). We focus on Sub-Saharan Africa for this outcome because our previous analysis does not detect any significant relationship between historical and current civil conflict outside of this region. We exclude the 1900-13 period because the colonial peace leaves no variation in intra-African conflicts.

Table 8 presents OLS estimates for the intermediate outcomes. Columns 1 and 2 show the results for the intermediate fiscal capacity outcome, log railway kilometers in 1910. The estimated coefficients are positive and significant for the rest of the Old World whether or not we include colonial dummies. There is no systematic relationship for Sub-Saharan Africa, which may suggest that European colonizers built railways at the start of their rule regardless of the strength of pre-colonial states. Columns 3 and 4 repeat this analysis for the intermediate conflict outcome, intra-African conflicts from 1850 to 1899. The coefficients are positive and significant.[27]

[27]The results are similar in magnitude and significance if we use all conflicts fought in Sub-Saharan Africa between 1850 and 1899 rather than only intra-African conflicts (not shown to save space).

6 Conclusion

Do the consequences of historical warfare differ for Sub-Saharan Africa? To address this question, we have assembled new data on the locations of more than 1,600 conflicts in Africa, Asia, and Europe from 1400 to 1799, which we have used to test for the legacy of historical warfare on state development.

Our results provide new evidence about where and when "war makes states." Following the typology of Besley and Persson (2014), our results suggest that historical warfare predicts "common-interest states" across much of the Old World, but predicts "special-interest states" in Sub-Saharan Africa. Our results are robust to a broad range of specifications, controls, and samples. Taken together, this evidence suggests that the consequences of historical warfare for state development may in fact be different for Sub-Saharan Africa.

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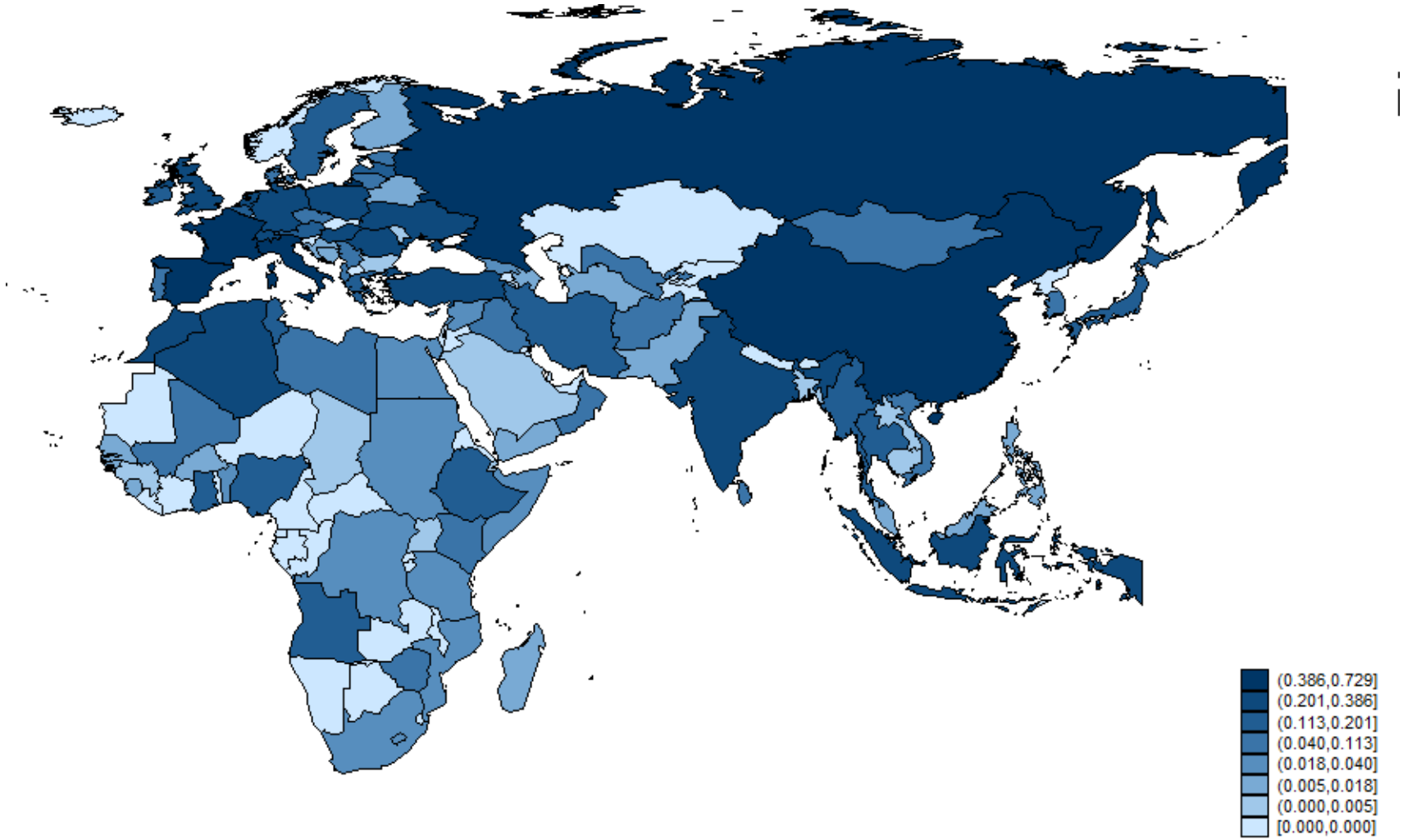
Figure 1: Historical Conflict across the Old World



Note: Figure displays share of years from 1400 to 1799 in which a country experienced conflict on its soil. Countries with the largest share of historical conflict years receive the darkest shade, while those with the smallest share receive the lightest shade.

Table 1: Conflicts by Century and Continent, 1400-1799

	1400s	1500s	1600s	1700s	Total	Average
Asia	148	181	91	100	520	130
Europe	259	220	232	96	807	202
North Africa	12	28	33	25	98	25
Sub-Saharan Africa	21	60	90	58	229	57
Total	440	489	446	279	1,654	414

Source: Brecke (1999).
Note: Number of conflicts that start in each century.

Table 2: Historical Conflict and State Capacity: Main Results

Dependent variable	(1) Income tax share, 1990-2014	(2) Direct tax share, 1990-2014	(3) Income tax/GDP ratio, 1990-2014	(4) Total tax/GDP ratio, 1990-2014	(5) Income tax share, 1990-2014
Conflict, 1400-1799	0.330***	0.600**	0.067*	0.048	0.556*
	(0.107)	(0.283)	(0.034)	(0.049)	(0.287)
	[0.003]	[0.044]	[0.052]	[0.333]	[0.056]
Conflict x Africa	-0.060	1.320	0.116	0.270	0.076
	(0.244)	(3.072)	(0.130)	(0.404)	(0.530)
	[0.806]	[0.671]	[0.375]	[0.505]	[0.887]
Conflict measure	Years	Years	Years	Years	Start
Continent FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
F-statistic	1.364	0.391	2.033	0.627	1.741
p-value	0.246	0.537	0.157	0.430	0.190
R-squared	0.265	0.719	0.451	0.516	0.243
Observations	110	37	110	118	110

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Persistence of Conflict: Main Results

Dependent variable	(1) Civil war share, 1950-2000	(2) Violence share (ordered), 1945-2000	(3) Violence share (dummy), 1945-2000	(4) Civil war share, 1950-2000
Conflict, 1400-1799	0.022	0.283	0.256	-0.352
	(0.183)	(0.350)	(0.182)	(0.451)
	[0.906]	[0.421]	[0.162]	[0.437]
Conflict x Africa	2.752**	5.002**	2.385**	6.213***
	(1.211)	(2.348)	(1.121)	(2.281)
	[0.025]	[0.036]	[0.036]	[0.008]
Conflict measure	Years	Years	Years	Start
Continent FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
F-statistic	5.280	5.089	5.594	6.626
p-value	0.024	0.026	0.020	0.011
R-squared	0.259	0.283	0.316	0.272
Observations	116	113	113	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Historical Conflict and State Capacity: Robustness

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Income tax share, 1990-2014					
Conflict, 1400-1799	0.303***	0.297**	0.274**	0.365**	0.285**	0.251*
	(0.111)	(0.114)	(0.113)	(0.176)	(0.111)	(0.133)
	[0.007]	[0.010]	[0.017]	[0.042]	[0.012]	[0.062]
Conflict x Africa	-0.295	-0.137	-0.033	0.118	-0.102	-0.327
	(0.309)	(0.253)	(0.262)	(0.323)	(0.198)	(0.380)
	[0.341]	[0.588]	[0.900]	[0.715]	[0.608]	[0.393]
Conflict measure	Years	Years	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Colonial origins	Yes	No	No	No	No	Yes
Artificial borders	No	Yes	No	No	No	Yes
Legal origins	No	No	Yes	No	No	Yes
Other initial conditions	No	No	No	Yes	No	No
Other geography	No	No	No	No	Yes	Yes
F-statistic	0.001	0.408	0.917	2.449	0.912	0.034
p-value	0.978	0.525	0.341	0.123	0.342	0.854
R-squared	0.286	0.301	0.286	0.437	0.434	0.480
Observations	109	101	110	75	109	101

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets. "Other initial conditions" is state antiquity in 1500 and the technological adoption level in 1500. "Other geography" is % population at risk for malaria, % population living in tropical zones, average distance to nearest waterway, average distance to nearest coast, ruggedness, % desert, and gem diamond extraction.
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Persistence of Conflict: Robustness

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Civil war share, 1950-2000					
Conflict, 1400-1799	0.082	0.047	-0.051	-0.313	0.090	0.121
	(0.177)	(0.195)	(0.211)	(0.301)	(0.175)	(0.210)
	[0.645]	[0.809]	[0.811]	[0.302]	[0.609]	[0.568]
Conflict x Africa	2.274*	2.626**	2.820***	2.749*	2.663**	2.263*
	(1.230)	(1.299)	(1.024)	(1.479)	(1.201)	(1.315)
	[0.067]	[0.046]	[0.007]	[0.068]	[0.029]	[0.089]
Conflict measure	Years	Years	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Colonial origins	Yes	No	No	No	No	Yes
Artificial borders	No	Yes	No	No	No	Yes
Legal origins	No	No	Yes	No	No	Yes
Other initial conditions	No	No	No	Yes	No	No
Other geography	No	No	No	No	Yes	Yes
F-statistic	3.694	4.189	7.366	2.589	5.233	3.322
p-value	0.058	0.043	0.008	0.113	0.024	0.072
R-squared	0.356	0.249	0.281	0.302	0.339	0.372
Observations	116	108	116	76	116	108

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets. "Other initial conditions" is state antiquity in 1500 and the technological adoption level in 1500. "Other geography" is % population at risk for malaria, % population living in tropical zones, average distance to nearest waterway, average distance to nearest coast, ruggedness, % desert, and gem diamond extraction.
*** p<0.01, ** p<0.05, * p<0.1

Table 6: Potential Bias from Unobservables

Controls in restricted set	Controls in full set	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000
	Panel A: Conflict, 1400-1799		
None	Baseline controls	-1.531	0.130
Baseline controls	Colonial origins	43.291	-1.363
Baseline controls	Legal origins	4.892	-0.699
Baseline controls	Other initial conditions	125.747	-3.230
Baseline controls	Other geography	11.226	-1.319
	Panel B: Conflict x Africa		
None	Baseline controls	-0.455	-131.904
Baseline controls	Colonial origins	-1.171	4.759
Baseline controls	Legal origins	1.212	-41.240
Baseline controls	Other initial conditions	-1.280	32.310
Baseline controls	Other geography	-1.735	29.953

Note: Each cell reports ratio based on coefficients for Conflict, 1400-1799 (Panel A) or Conflict x Africa (Panel B) for two regressions. The first includes covariates for "restricted" set of controls as listed; we label this coefficient $\hat{\beta}^{r}$. The second includes covariates for "full" set of controls as listed; we label this coefficient $\hat{\beta}^{f}$. We compute the ratio as $\hat{\beta}^{f}/(\hat{\beta}^{r} - \hat{\beta}^{f})$. "Baseline controls" are log pop density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. "Other initial conditions" are state antiquity in 1500 and the technological adoption level in 1500. "Other geography" are % population at risk for malaria, % population living in tropical zones, average distance to nearest waterway, average distance to nearest coast, ruggedness, % desert, and gem diamond extraction. All regressions include full set of fixed effects for continents.

Table 7: Alternative Samples

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000	(3) Income tax share, 1990-2014	(4) Civil war share, 1950-2000	(5) Income tax share, 1990-2014	(6) Civil war share, 1950-2000	(7) Income tax share, 1990-2014	(8) Civil war share, 1950-2000
	Exclude 1700s		No South Africa		No China, Russia		Include Americas	
Conflict, 1400-1700	0.309***	-0.124						
	(0.087)	(0.152)						
	[0.001]	[0.415]						
Conflict, 1400-1799			0.332***	0.024	0.306***	0.037	0.208*	0.055
			(0.107)	(0.183)	(0.111)	(0.208)	(0.116)	(0.170)
			[0.003]	[0.896]	[0.007]	[0.858]	[0.075]	[0.746]
Conflict x Africa	-0.011	3.424***	-0.043	2.766**	-0.249	2.343**	0.001	2.752**
	(0.221)	(0.776)	(0.233)	(1.229)	(0.287)	(1.171)	(0.248)	(1.231)
	[0.959]	[0.000]	[0.855]	[0.027]	[0.387]	[0.048]	[0.997]	[0.027]
Conflict measure	Years	Years	Years	Years	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F-statistic	2.003	18.17	1.751	5.180	0.0418	4.044	0.812	5.250
p-value	0.160	0.000	0.189	0.025	0.838	0.047	0.369	0.024
R-squared	0.276	0.296	0.286	0.262	0.303	0.320	0.226	0.231
Observations	110	116	109	115	108	114	132	141

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Intermediate Outcomes

	(1)	(2)	(3)	(4)
Dependent variable	Log railway km, 1910		Intra-African conflict, 1850-99	
Conflict, 1400-1799	5.381***	5.138***	1.441**	1.161**
	(1.070)	(0.877)	(0.617)	(0.482)
	[0.000]	[0.000]	[0.026]	[0.023]
Conflict x Africa	-6.417*	-2.989		
	(3.257)	(5.131)		
	[0.055]	[0.563]		
Conflict measure	Years	Years	Years	Years
Continent FE	Yes	Yes	No	No
Controls	Yes	Yes	Yes	Yes
Colonial origins	No	Yes	No	Yes
F-statistic	0.0974	0.181		
p-value	0.756	0.672		
R-squared	0.646	0.747	0.395	0.567
Observations	59	59	40	40

Note: Estimation method is OLS. All regressions include country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. Sample for regressions 1-2 is Old World; thus, we include full set of fixed effects for continents. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Sample for regressions 3-4 is Sub-Saharan Africa only; thus, we thus exclude continental fixed effects. Robust standard errors in parentheses, followed by corresponding p-values in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Online Appendix for

Is Africa Different? Historical Conflict and State Development

Table A1: Descriptive Statistics for Regression Variables

	Obs	Mean	Std dev	Min	Max
Share of years of conflict, 1400-1799	149	0.072	0.127	0	0.729
Number of conflicts, 1400-1799	149	13.130	34.94	0	348
Share of years of conflict starts, 1400-1799	149	0.028	0.060	0	0.501
Average income tax share, 1990-2014	125	0.341	0.141	0.036	0.923
Average direct tax share, 1990-2014	43	0.684	0.339	0.143	1.928
Average income tax/GDP ratio, 1990-2014	125	0.062	0.046	0.002	0.285
Average tax/GDP ratio, 1990-2014	138	0.170	0.084	0.009	0.460
Share of years of civil war, 1950-2000	132	0.126	0.231	0	1
Share of years of political violence, 1945-2000 (ordered)	128	0.319	0.475	0	2
Share of years of political violence, 1945-2000 (dummy)	128	0.190	0.251	0	1
Europe (dummy)	149	0.309	0.464	0	1
Asia (dummy)	149	0.329	0.471	0	1
North Africa (dummy)	149	0.040	0.197	0	1
Sub-Saharan Africa (dummy)	149	0.322	0.469	0	1
Log population density, 1500	132	1.241	1.334	-1.939	4.135
Log timing of Neolithic transition (millennia elapsed until 2000)	131	8.436	0.593	5.892	9.259
Log land suitability for agriculture	126	-1.616	1.440	-5.857	-0.186
Log absolute latitude	146	3.018	1.025	0	4.174
Land area (millions of sq km)	149	0.552	1.604	1.95e-06	16.380
British colony (dummy)	144	0.278	0.449	0	1
French colony (dummy)	144	0.174	0.380	0	1
Portuguese colony (dummy)	144	0.035	0.184	0	1
Spanish colony (dummy)	144	0.014	0.117	0	1
Other European colony (dummy)	144	0.042	0.201	0	1
British legal origins (dummy)	146	0.260	0.440	0	1
French legal origins (dummy)	146	0.432	0.497	0	1
Technology adoption level, 1500	89	0.775	0.313	0	1
State antiquity, 1500	117	0.497	0.242	0.028	0.964
Share of population at risk of malaria	132	0.357	0.443	0	1
Share of population living in tropical zone	128	0.237	0.382	0	1
Average distance to nearest waterway (thousands of km)	128	0.365	0.475	0.011	2.386
Average distance to nearest coast (thousands of km)	144	0.349	0.427	0	2.206
Terrain ruggedness	144	1.497	1.462	0.012	6.740
Share of desert land	144	0.042	0.125	0	0.773
Average diamond extraction, 1958-2000 (thousands of carats/sq km)	144	5.761	28.460	0	208.700
Log railway km, 1910	62	7.386	1.775	2.197	11.110
Share of years of intra-African conflict, 1850-99	48	0.077	0.126	0	0.580

Sources: See text.

Table A2: Robustness: Non-Fiscal Outcomes

Dependent variable	(1) Anti-diversion score	(2) State weakness score
Conflict, 1400-1799	0.296**	3.976**
	(0.113)	(1.846)
	[0.011]	[0.034]
Conflict x Africa	0.085	-4.235
	(0.488)	(4.690)
	[0.863]	[0.369]
Conflict measure	Years	Years
Continent FE	Yes	Yes
Controls	Yes	Yes
F-statistic	0.628	0.00302
p-value	0.431	0.956
R-squared	0.634	0.499
Observations	89	93

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A3: Robustness: Additional Interaction Terms

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000
Conflict, 1400-1799	0.346***	-0.086
	(0.123)	(0.148)
	[0.006]	[0.564]
Conflict x Africa (Sub-Saharan)	-0.079	2.876**
	(0.254)	(1.220)
	[0.758]	[0.020]
Conflict x Asia	-0.031	0.204
	(0.157)	(0.434)
	[0.845]	[0.639]
Conflict x North Africa	-0.266	1.053*
	(0.635)	(0.585)
	[0.676]	[0.075]
Conflict measure	Years	Years
Continent FE	Yes	Yes
Controls	Yes	Yes
F-statistic	1.314	5.216
p-value	0.255	0.0244
R-squared	0.266	0.265
Observations	110	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A4: Robustness: Ethnicity Controls

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000	(3) Income tax share, 1990-2014	(4) Civil war share, 1950-2000
Conflict, 1400-1799	0.326***	0.052	0.320***	0.009
	(0.108)	(0.186)	(0.106)	(0.183)
	[0.003]	[0.782]	[0.003]	[0.959]
Conflict x Africa	-0.027	2.600**	-0.119	2.668**
	(0.240)	(1.225)	(0.262)	(1.250)
	[0.911]	[0.036]	[0.650]	[0.035]
Conflict measure	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Ethnic fractionalization	Yes	Yes	No	No
Ethnic dominance	No	No	Yes	Yes
F-statistic	1.749	4.751	0.648	4.588
p-value	0.189	0.0316	0.423	0.0345
R-squared	0.267	0.268	0.269	0.261
Observations	109	115	110	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A5: Robustness: Post-Independence Controls

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000	(3) Income tax share, 1990-2014	(4) Civil war share, 1950-2000
Conflict, 1400-1799	0.263**	0.021	0.336***	-0.031
	(0.105)	(0.189)	(0.115)	(0.203)
	[0.014]	[0.913]	[0.004]	[0.880]
Conflict x Africa	0.160	2.754**	-0.077	2.873**
	(0.221)	(1.222)	(0.241)	(1.176)
	[0.469]	[0.026]	[0.752]	[0.016]
Conflict measure	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
US vote affinity in UN	Yes	Yes	No	No
Highly-educated leader	No	No	Yes	Yes
F-statistic	4.247	5.218	1.312	5.918
p-value	0.0420	0.0244	0.255	0.0167
R-squared	0.364	0.259	0.254	0.274
Observations	110	116	108	114

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A6: Robustness: Slavery Controls

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000	(3) Income tax share, 1990-2014	(4) Civil war share, 1950-2000
Conflict, 1400-1799	0.306***	0.006	0.333***	0.007
	(0.109)	(0.186)	(0.108)	(0.185)
	[0.006]	[0.976]	[0.003]	[0.971]
Conflict x Africa	0.027	2.831**	-0.142	3.056**
	(0.267)	(1.184)	(0.315)	(1.274)
	[0.920]	[0.019]	[0.654]	[0.018]
Conflict measure	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Indigenous slavery	Yes	Yes	No	No
Slave exports	No	No	Yes	Yes
F-statistic	1.726	5.800	0.415	5.880
p-value	0.192	0.0178	0.521	0.0170
R-squared	0.291	0.270	0.266	0.263
Observations	110	116	110	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A7: Robustness: Additional Geographic Controls

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000	(3) Income tax share, 1990-2014	(4) Civil war share, 1950-2000
Conflict, 1400-1799	0.284**	0.086	0.297**	0.080
	(0.112)	(0.182)	(0.113)	(0.179)
	[0.013]	[0.638]	[0.010]	[0.657]
Conflict x Africa	-0.112	2.646**	-0.185	2.703**
	(0.202)	(1.216)	(0.235)	(1.204)
	[0.581]	[0.032]	[0.433]	[0.027]
Conflict measure	Years	Years	Years	Years
Continent FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Ecological diversity	Yes	Yes	No	No
Oil production	No	No	Yes	Yes
F-statistic	0.780	4.995	0.250	5.349
p-value	0.379	0.0277	0.618	0.0229
R-squared	0.435	0.339	0.439	0.339
Observations	109	116	109	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A8: Robustness: Region Fixed Effects

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000
Conflict, 1400-1799	0.195	0.047
	(0.133)	(0.175)
	[0.146]	[0.789]
Conflict x Africa	0.246	2.498***
	(0.285)	(0.902)
	[0.391]	[0.007]
Conflict measure	Years	Years
Region FE	Yes	Yes
Controls	Yes	Yes
F-statistic	2.962	8.230
p-value	0.0887	0.00509
R-squared	0.379	0.474
Observations	110	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for 14 macro-geographical regions and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A9: Robustness: Historical Conflict, 1400-1600

Dependent variable	(1) Income tax share, 1990-2014	(2) Civil war share, 1950-2000
Conflict, 1400-1600	0.275***	-0.096
	(0.081)	(0.141)
	[0.001]	[0.497]
Conflict x Africa (Sub-Saharan)	0.006	2.954***
	(0.208)	(0.923)
	[0.977]	[0.002]
Conflict measure	Years	Years
Region FE	Yes	Yes
Controls	Yes	Yes
F-statistic	2.062	116
p-value	0.154	0.261
R-squared	0.273	0.261
Observations	110	116

Note: Estimation method is OLS. All regressions include full set of fixed effects for macro-geographical regions and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A10: Robustness: Alternative Periodizations of Civil Conflict

Dependent variable	(1) Civil war share, 1960-2014	(2) Civil war share, 1960-1990	(2) Civil war share, 1990-2014
Conflict, 1400-1799	-0.022	0.026	-0.082
	(0.090)	(0.101)	(0.114)
	[0.809]	[0.794]	[0.471]
Conflict x Africa	1.352***	1.875***	0.773
	(0.472)	(0.567)	(0.534)
	[0.005]	[0.001]	[0.151]
Conflict measure	Years	Years	Years
Region FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
F-statistic	7.911	11.28	1.673
p-value	0.00583	0.00108	0.199
R-squared	0.200	0.217	0.144
Observations	120	120	120

Note: Estimation method is OLS. All regressions include full set of fixed effects for macro-geographical regions and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table A11: Robustness: Exclude Angola

	(1)	(2)
	Dependent variable: Civil war share, 1950-2000	
Conflict, 1400-1799	0.017	-0.017
	(0.184)	(0.186)
	[0.925]	[0.926]
Conflict x Africa (Sub-Saharan)	1.228	
	(1.373)	
	[0.373]	
Conflict x Africa (All)		0.977*
		(0.572)
		[0.090]
Conflict measure	Years	Years
Continent FE	Yes	Yes
Controls	Yes	Yes
F-statistic	0.818	2.831
p-value	0.368	0.0955
R-squared	0.203	0.207
Observations	115	115

Note: Estimation method is OLS. All regressions include full set of fixed effects for continents and country-level controls for log population density in 1500, log timing of Neolithic transition, log land suitability for agriculture, log absolute latitude, and area. F-statistic is for test of hypothesis that sum of coefficients for direct effect and interaction effect equals zero. Robust standard errors in parentheses, followed by corresponding p-values in brackets.

*** p<0.01, ** p<0.05, * p<0.1