

Identity conflict, ethnocentrism and social cohesion*

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Abstract

This paper uses a novel dataset on ethnic warfare to shed lights on how conflict affects social identification and cohesion. A large body of anecdotal studies illustrates how the saliency of ethnic identities increases at times of conflict. This paper uses data from eighteen sub-Saharan countries to provide econometric evidence for such a claim. The effect of ethnic conflict on various measures of social capital is also investigated. Identity conflict is shown to have a positive impact on local civic engagement. The finding is understood as a result of the ethnocentric dynamics generated by conflict: as ethnic warfare increases ethnic identification, in-group cooperation follows suit. This parochial interpretation is further strengthened by the use of remote violence and the conditionality of conflict-induced pro-social behaviour on low levels of ethnic fractionalisation.

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1 Introduction

In the early 1990s war forcefully knocked back to the doors of Europe: after being united for almost a century, the Yugoslavian Federation began to crumble apart amidst bloody inter-ethnic clashes. The reaction of the international community was one of stupor and paralysis. External observers were baffled at the ferocity and violence of the conflict, which seemingly engulfed all social strata, from political entrepreneurs and national zealots, down to ordinary citizens. People sought shelter into their ethnic community, turning against those hailing from other cultural backgrounds. While journalists and politicians alike have struggled to make sense of these dynamics, invoking ill-defined stereotypes and 'ancient hatreds' (Allen and Seaton 1999), the academia has since long recognised the role that instrumental considerations have had in shaping these culturally-oriented behaviours of cooperation and discrimination. Illustrating the role that opportunistic armed gangs, such as the Serbian thugs of Arkan's Tigers, had in intimidating the population at large and in carrying out the bulk of violence, one observer concluded that: "what passed for 'ethnic warfare' in Bosnia and Croatia thus seems to have been something far more banal: the creation of communities of criminal violence and pillage."¹

The discussion surrounding the Yugoslavian wars is symptomatic of a broader debate on the saliency and importance of social identities at times of conflict. Can ethnic warfare be explained in purely instrumental terms? Or, is there a genuine process of ethnic radicalisation associated to these types of war? And, if yes, how does it affect within-group social cohesion? This paper answers these questions by providing empirical evidence on the impact of conflict on ethnic identity and social capital across Sub-Saharan Africa.

While the argument has been extensively dealt anecdotally, large scale quantitative evidence on the latter is very limited. A major barrier to empirical investigation in the field is, indeed, the lack of comprehensive data on ethnic violence, that is conflict activity (allegedly) carried out for the sake of a given ethnic group. To overcome such limitation, I compiled

¹Mueller (2000) p. 53. The author documents several occasions when involvement in the conflict was dictated by greedy instrumental motivations, rather than ethnic concerns. For a more general overview of the conflict see: Sambanis and Shayo (2013). For a vivid representation of the Yugoslavian collapse, the reader is referred to the excellent anthropological documentary filmed by Bringa and Christies (1993), illustrating the emergence of inter-ethnic hostilities within a small Bosnian village.

a novel dataset. Using geo-coded data from the Armed Conflict Location and Event Data Project (ACLED), I manually match 863 armed actors to various sub-Saharan ethnolinguistic groups. The process allows the construction of conflict measures that vary across time, space, and ethnicity. These variables are then connected to several Afrobarometer surveys, describing social attitudes and identification across the African continent.² In particular, I employ three measures of social cohesion at the local level, namely: attendance at community meetings, membership in community development associations, and participation in instances of collective action. As for social identity, Afrobarometer asks respondents whether they feel more represented by their ethnic group or by their nation-state.

The triple source of variation of the conflict variables is the essence of the identification strategy here employed. The baseline model consists of an Ordinary Least Squares (OLS) regression of the social cohesion variables on ethnic conflict, as enriched by cell-district \times time and ethnic \times time fixed effects, other than various individual-level covariates taken from the Afrobarometer. While, obviously, violence does not unfold randomly, the rich set of fixed effects attenuates issues of reverse causality (*e.g.* ethnicities self-selecting into conflict) and problems related to omitted variables (*e.g.* different local development trends). It remains, however, the possibility that estimates are biased by unobservable confounding factors operating at the ethnic-geographic-temporal level. A series of robustness tests aims at lowering these concerns, and gives credit to a causal interpretation of the results. Among the various sensitivity checks, the most relevant is the use of *distant* conflict, which is likely orthogonal to local (ethnic-specific) shocks affecting social attitudes.

The models here estimated substantiate a positive impact of ethnic conflict on in-group identification and cohesion. First, ethnic conflict makes ethnic identity more salient. The result echoes popular perceptions and gives empirical support – the first on a cross-country level – to the large qualitative literature linking warfare to episodes of ethnic

²The choice of sub-Saharan Africa as a setting for the analysis responds primarily to issues of data availability. To the best of my knowledge, time-varying geo-coded cross-country information on conflict and social attitudes is available only for this region of the world. Moreover, ethnic conflict is concentrated in sub-Saharan Africa (Fearon and Laitin 2003), where sub-national identities are still strong and considerably affect the course of public policy (Easterly and Levine 1997).

radicalisation.³ Moreover, the finding qualifies those studies reducing identity shifts to mere opportunistic calculations (Kalyvas 2008, Mueller 2000).

The second major finding of the paper is that ethnic conflict has also a positive effect on the three selected measures of social capital. The result is in line with some recent works relating warfare to civic engagement.⁴ Importantly, the research design here employed allows to test a plausible mechanism behind this positive link. Warfare, when externally felt by a group, can, indeed, increase pro-social behaviour through several channels. These, for the purposes of this paper, can be divided into two non-exclusive categories.

First, warfare can bring a change in social norms by providing direct *material* incentives favouring pro-social strategies. These incentives stem from both economic and security rationales. On the one hand, amidst the insecure environment generated by conflict, communal insurance mechanisms acquire greater importance, possibly paving the way to stable cooperative institutions and norms (Gilligan *et al* 2014). On the other hand, conflict triggers a demand for security that is, indeed, often met by the creation of local self-defence forces (Jennings and Sanchez-Pages 2017). Cooperation within the latter can then gradually extend to the community as a whole.⁵

The second category of mechanisms linking conflict to cooperation, works through psychological processes that directly change individuals' social preferences. One of these channels works through ethnocentric dynamics: conflict results into stronger affiliation towards co-ethnics, ultimately easing cooperation within one's own group. The very fact that warfare unfolds along ethnic cleavages makes ethnic attributes more salient: individuals perceive themselves into ethnolinguistic terms and the group identity is made thicker by the war experience.⁶ Hence, as

³See, for example, Kaufmann (1996, pp. 140-145) for an overview of how ethnic identification hardened throughout many 20th century conflicts. For a more detailed account on the 1994 Rwandan genocide, one of the worst episode of sectarian violence in recent times, the reader is referred to Peterson (2000).

⁴See Bauer *et al* (2016) for a review.

⁵There is some evidence on the emergence of local self-defence forces within the period here considered. This is the case, for example, of the 'Moorland Forces Militia (Kenya)', a Mosop self-defence group born to counter the Soi-led 'SLDF: Sabaot Land Defence Force' active in Mount Elgon (Kenya) (Simiyu 2008).

⁶Conflict is, indeed, a great repertory of images and symbols shaping and substantiating the social identity and cohesion of a group. Beyond the mythologisation of battles as defining moment of the identity-building process – the centuries-long idealisation of the battle of Poitiers (732 AC) as defining moment for the definition of a European

ethnocentric feelings are prioritised, people become more willing to cooperate with their co-ethnics, who are felt closer and are equally sympathetic to those violent clashes investing their ethnolinguistic group as a whole.

There are, however, many other psychological processes linking warfare to cooperation. These mechanisms range from spontaneous outrage against war injustices – with the related effort to redress them – to theories explaining public engagement as an emotional value (Bateson 2012). The one which has received the most attention is, perhaps, the so-called post-traumatic growth theory. According to the latter, in the aftermath of traumatic events people recast their beliefs, often in a drastic manner. The reformation of one's own *weltanschauung* goes in the direction of a renewed appreciation of one's own: capability, spiritual dimension, and intimate relations (Tedeschi and Calhoun 2004); thus possibly leading to higher involvement in social and public life.⁷

While these mechanisms may coexist and reinforce one another, the observed increase in social capital seems to be driven by the ethnocentric dynamics inherent to sectarian conflict. First, the use of ethnic-level conflict implies a cultural, rather than geographical, link between warfare and individual behaviour. This, also in light of the positive impact on ethnic identification, suggests a parochial interpretation of the results: the observed increase in pro-social behaviour remains limited to one's own co-ethnics. The intuition is further tested by checking for the impact of distant conflict activity, whose effect is not likely to operate through institutional channels affecting local economic and security incentives. Moreover, when (local) ethnic and non-ethnic violence are compared, only the first has a positive significant impact on pro-social behaviour. Finally, the models estimated at section 5 illustrate how the effect of ethnic warfare is heterogeneous with respect to local measures of ethnic fractionalisation: conflict-induced cooperation fails to materialise in communities highly divided across ethnic lines, further giving strength to a parochial understanding of the baseline results.

identity, despite its marginal strategic importance at the time, is a case point –, victimisation and, possibly, revenge appear to be of paramount importance in cementing a common sense of identity. As an outstanding contemporary example, consider Israel, where Holocaust martyrs are revered in the poignant Yad Vashem museum of Jerusalem and the related sense of victimisation is still today a crucial element in the definition of Israeli national feelings (Resnik 2003).

⁷Explicit empirical evidence of post-traumatic growth with respect to conflict remains, however, quite elusive. For some limited evidence concerning the Yugoslavian wars, see Powell *et al* (2003).

Overall, the analysis provides empirical evidence to the idea that ethnic boundaries have a pivotal role in shaping the content and extent of pro-social behaviour during periods of conflict. While instrumentalist considerations have been correctly identified as important factors governing group cooperation, identity-based processes, such as those underlined here, are equally relevant in explaining post-conflict social norms.

The rest of the paper is organised as follows. Section 2 reviews the existing evidence and the related literature. The following part describes the data used in the empirical analysis, which is then presented in section 4. Hence, I proceed to test the ethnocentric mechanism as explanation for the conflict-induced increase in social capital. A final section concludes.

2 Existing evidence

Given the limited availability of data on ethnic conflict, few studies have quantitatively explored its consequences in terms of social identification. The most notable exception is the work by Rohner and co-authors (2013), who explore the issue in relation to the resurgence of the Lord's Resistance Army insurgency in Uganda during the early 2000s. While their main model uses warfare on a geographical base, in an extension they match conflict to ethnolinguistic groups. They find a positive impact of ethnic conflict on ethnic identification, which lead them to a conclusion similar to that of this paper: conflict impact on inter-personal trust is mediated by ethnocentric dynamics.⁸ Other papers analyse the responsiveness of social identity to violence, but using geographically-defined conflict and thus focusing on identity shifts due to changing balance of power across groups. Ananyev and Poyker (2021), for example, provides another case study from sub-Saharan Africa. The authors look at the Tuareg insurgency in Mali (2012), finding that conflict-induced lower perception of state capacity is associated to decreases in national identification. The only cross-country work is that of Besley and Reynal-Querol (2014), who find that historical conflict in Africa is correlated to higher ethnic identification and more inter-ethnic mistrust. From a theoretical

⁸Beyond the obvious gains in terms of external validity, this paper employs a more demanding empirical specification than that used by Rohner *et al* (2013), which does not include spatio-temporal fixed effects.

perspective, Sambanis and Shayo (2013) develop a model of ethnic conflict and choice of social identity. One of the assumption of their model is that the saliency of ethnic attributes increases with inter-ethnic fighting. As the authors admit (footnote 7), while there is enough anecdotal evidence, “there is no study to date that has measured the persistence of violence-induced ethnic identification.” The positive link here found between ethnic conflict and identification, can be thought as a step in this direction.

Moreover, beyond the quantification of warfare-induced identity radicalisation, this paper provides a ‘new’ conceptual framework to understand the deep mechanisms behind such process. The theory, presented at section 5A, moves from evolutionary premises and introduces an alternative lens of analysis to the socio-biological theses elaborated by Samuel Bowles and co-authors, which have so far monopolised the field of economics.⁹

A second body of literature to which this paper is related concerns those articles analysing the impact of conflict on pro-social behaviour. Interest in the field, at least among economists, was sparked by Bellow and Miguel’s (2009) study in Sierra Leone. Using a household survey reporting also for exposure to the 1991-2002 civil war, they found that people more exposed to conflict were also more likely to participate in community life once hostilities were over. Similar findings have been echoed by studies of various other conflicts around the globe, such as those in: Burundi (Voors and Bulte 2014), Uganda (De Luca and Verpoorten 2015a & 2015b), Russia (Guriev and Melnikov 2016), and Nepal (Gilligan *et al* 2014). Moving beyond the case-study literature, Grosjean (2014) analyse the legacy of violent conflict in thirty-five Eurasian countries. She finds that personal or familiar exposure to warfare is associated to higher levels of social capital. In a similar vein, using data at the global level, Bateson (2012) concludes that crime victimisation positively affects attendance at community meetings. The findings of the literature are not, however, completely uncontroversial. Conflict type and degree of exposure seem, indeed, to matter a lot. Blattman (2009) considers the consequences of abduction by the Lord’s Resistance Army during the Ugandan civil war: in terms of pro-social behaviour, children who were captured and forced to fight with rebels are indistinguishable from other civilians. Cassar *et al* (2013) analyse the internal conflict in Tajikistan (1992-1997), finding a negative relationship between victimisation and

⁹See Bowles (2008 & 2009), Choi and Bowles (2007).

within-community trust. The authors provides empirical support to the intuition that their results are explained by the intra-community nature of the Tajik war.

Overall, one of the conclusion that can be drawn from this literature is that *external* warfare can induce cooperation, but only limited to the group that is swamped by conflict as a ‘unitary’ actor. When conflict, instead, cuts through internal cleavages, social capital tends to deplete because, as a consequence of the insecure environment, mistrusting attitudes become prioritised and social networks collapse. This parochial interpretation, although not always explicitly spelt out, is also coherent with those articles finding a negative impact of conflict on generalised trust (Besley and Reynal-Querol 2014, Rohner *et al* 2013) and central political institutions (De Juan and Pierskalla 2016, Grosjean 2014, Voors and Bulte 2014).¹⁰ The analysis in this paper takes part to the academic debate by providing clear evidence on the in-group bias of conflict-induced cooperation.

A final strand of literature related to this paper concerns the interplay between state-building and ethnicity in sub-Saharan Africa. Most of the countries in the continent are highly multi-ethnic; for example, the sole Nigeria is credited with more than 250 different ethnolinguistic groups.¹¹ While the co-existence of different peoples shall not necessarily hamper political stability, in the African context, marked by historically weak institutions,¹² multiculturalism has often been a source of troubles. Many states are, indeed, characterised by fierce political competition along ethnic lines. The contest often assumes a ‘winner-takes-all’ connotation, whereby the group in power squeezes public resources as much as possible for the sake of its fellow co-ethnics. Some of the most blatant examples include: early post-independence Ghana

¹⁰It shall be noted that there are also some other works finding a positive impact of conflict on impersonal trust (Bellow and Miguel 2009, De Luca and Verpoorten 2015a) and participation in public politics (Bateson 2012, Bellows and Miguel 2006 & 2009, Blattman 2009, De Luca and Verpoorten 2015b, Gilligan *et al* 2014). A review of the reasons for these discrepancies is out of the scope of this paper.

¹¹As reported by the CIA World Factbook: <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>.

¹²There are several reasons behind the relatively low level of political centralisation historically achieved in sub-Saharan Africa. These range from adverse geographic conditions not conducive to large-scale cereal farming (Mayshar *et al* 2020), to prevalence of extractive colonial institutions (Acemoglu and Robinson 2012) and the economic distortions brought about by the slave trade (Hopkins 1973). For a general discussion the reader is referred to the compelling analysis of Herbst (2000).

(Easterly and Levine 1997), Nigeria at least until 1999 (Kesselman *et al* 2016, ch. 12), and Kenya since the Moi’s regime (Elischer 2013, ch. 3). Moreover, given also the dis-functionality of central administrations, independence claims have abounded in the post-colonial period. Only two of them have ultimately proved successful: Eritrea gained independence from Ethiopia in 1991, and South Sudan separated from Sudan in 2011. Many more attempts have been suffocated in blood, leaving open scars in the collective memory of several peoples. Hence: the cycles of Tuareg rebellions in Mali, the Igbo struggle in Nigeria, the endless independence conflict in the Casamance region of Senegal, etc. The positive link between sectarian violence and ethnic-vs-national identification here found, unveils one of the mechanisms for the persistence of weak central administrations in sub-Saharan Africa.

3 Data

A Social cohesion

Outcome variables on social identity and cohesion are taken from Afrobarometer surveys.¹³ These are nationally representative surveys routinely used in the economic literature.¹⁴ Here, I employ rounds three to six, which cover the ten year window from March 2005 to September 2015. I keep only the eighteen countries that are present in all the surveys.¹⁵ These are: Benin, Botswana, Cape Verde, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. They are depicted in Figure 1, which also reports their subdivision in cells of 0.5×0.5 degrees ($\sim 55 \text{ km} \times 55 \text{ km}$).¹⁶

Crucially, Afrobarometer provides information on the language of respondents, allowing their classification in ethnolinguistic groups. I use

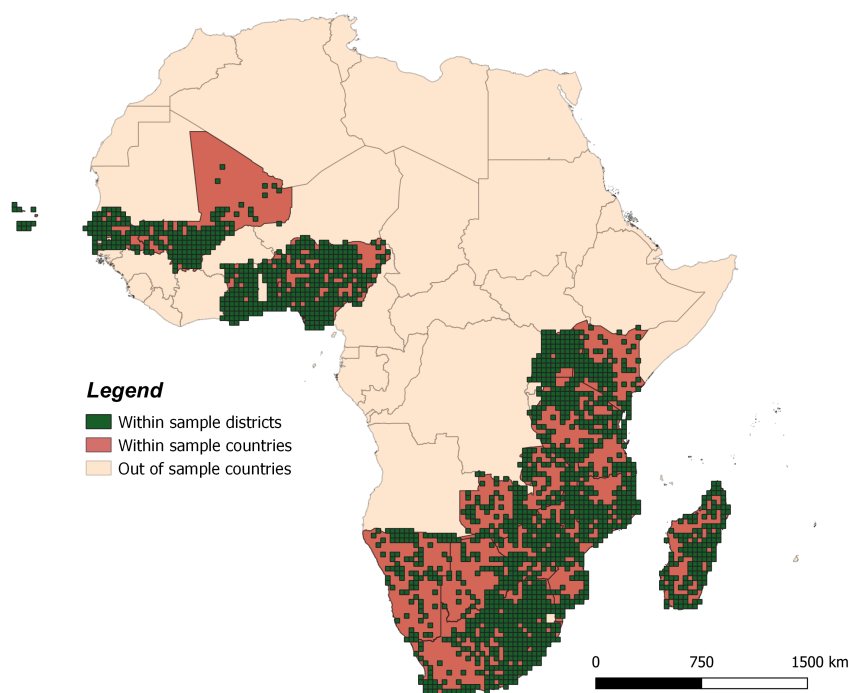
¹³Data is publicly available at: <http://afrobarometer.org/data/geocoded-data>.

¹⁴To cite just some recent work: Depetris-Chauvin *et al* (2020), Manacorda and Tesei (2020), Moscona *et al* (2020).

¹⁵In principle, the research design allows for the inclusion of any country appearing in at least two surveys. There are, indeed, other sixteen countries satisfying such criterium. Their exclusion is based on reasons of interpretability and time, with any new country included in the analysis considerably increasing the number of armed groups necessitating a match to an ethnicity.

¹⁶A cell belongs to a country when the two intersect. In case of cells spanning two or more within-sample countries, the cell was assigned to the country to which it belongs the most.

Figure 1: Countries and cells in Afrobarometer surveys three to six



the LEDA algorithm developed by Müller-Crepon and co-authors (2020) to harmonise languages across Afrobarometer rounds.¹⁷ The procedure yields a sample that comprehends 111.428 individuals belonging to 247 ethnolinguistic groups and spread across 1938 cells in eighteen countries.¹⁸

The question capturing social identification is expressed in terms of national-vs-ethnic allegiance. It varies discretely from one (the respondent feels only national) to five (the respondent identifies fully with her ethnic group).¹⁹ In robustness exercises, some variables measuring for

¹⁷Few languages could not be matched using this procedure; they have been excluded from the analysis.

¹⁸Afrobarometer asks also the ethnic group of the interviewed people. The use of language in the baseline analysis is dictated by the fact that there are 8548 less missing observations and that LEDA algorithm is based on the Ethnologue linguistic tree. As reported in the paper and the appendix, results are robust to using ethnicity as an ethnolinguistic marker.

¹⁹Note that this variable has been inverted around its median for easing the inter-

political trust are used for ensuring that shifts in social identification are due to movements in ethnic, rather than national, allegiance.

The variables describing social capital are: attendance at community meetings, membership in community associations, and involvement in instances of collective action. They are standard measures of social cohesion, abundantly used in the literature relating conflict to the latter. They are expressed in integers, with higher values signalling greater involvement in the local community. The exact text of Afrobarometer questions is reported in the appendix. Table 1 illustrates their descriptive statistics.

B Ethnic conflict

Data on conflict is taken from the ACLED database, which has been widely used in economics.²⁰ It covers conflict incidents spanning the whole African continent since 1997, providing information on their location, date, and actors involved.²¹ In order to define ethnic conflict, I analyse all the non-state armed groups appearing in the within-sample countries during the relevant period.²² There are 863 of them in total. I associate a conflict actor to an ethnolinguistic group when the former is organised along ethnic lines. Matches have been based on a *wide* variety of sources: primarily scholarly publications and international news agencies, but also, in the case of minor ephemeral actors, on social media posts and local newspapers. The ethnolinguistic dictionary of Olson (1996) has been the main reference used to harmonise ethnic affiliations towards the Afrobarometer categories. Details on the sources used as well as the rationale behind each actor-ethnicity link, are reported in the dataset and in its codebook.²³

pretation of results. The original coding of some other Afrobarometer controls has also been changed in order to harmonise them across survey rounds. The exact definition of all variables, alongside their recoding, is given in the appendix.

²⁰For some recently published papers employing the database see footnote 14. The data can be freely accessed at: <https://acleddata.com/data-export-tool/>. The version used in this paper dates October 2020

²¹The wide coverage of ACLED, allowing also for the inclusion of low-scale localised violence, is the chief reason why I employ this dataset in lieu of other geo-localised databases, most notably the UCDP-GED dataset. The latter includes only deadly conflict incidents belonging to a dyad crossing at least once the 25 battle-related deaths per year.

²²Formally, these are the actors defined by ACLED as rebel groups, political and identity militias: interaction codes 2, 3, and 4, respectively.

²³The database will be made available upon publication.

A typical positive match is for example that between the ‘Arrow Boys Militias’ and the ‘Ateso’ ethnolinguistic group. The militia was a local self-defence force in the Teso region of Uganda, which is inhabited by the Ateso-speaking Iteso people. Its formation was incentivised by the government to fight off the Lord’s Resistance Army (LRA). It had a uniquely regional character and framed the fight against the LRA in ethnic terms.²⁴

Not all matches were so uncontroversial. Armed groups have often multiple identities and objectives, so that their ethnic dimension is sometimes difficult to ascertain. These cases have been explicitly coded and they are dropped in robustness exercises. An example of uncertain match is that between the ‘NDFF: Niger Delta Freedom Fighters’ and the ‘Ijaw’ ethnolinguistic group. The actor has a popular base among Ijaw people, with its membership and symbolism referring mostly to the Ijaw world. Yet, its leadership is controlled by the Urhobo ethnic group (Oriola 2013, pp. 106, 146-147).

Another problem encountered during the matching procedure was that Afrobarometer languages can sometimes encompass the ethnolinguistic group represented by the ACLED actor. As example of the latter, consider the ‘Ilajes Ethnic Militia (Nigeria)’. The Ilajes are a sub-group of the Yoruba people (Olson 1996, p. 239), which is the ethnic category reported in the Afrobarometer surveys. There is a fair chance that not all Yorubas are deeply concerned by Ilajes’ fortunes. To account for this, an alternative matching rule excludes all the cases whereby Afrobarometer languages engulf actor’s ethnolinguistic affiliation.

Once conflict is associated to ethnicities, it is aggregated over time and space. Define $c_{e,l,j}$ as a dummy indicating the presence of a conflict event taking place in location l during day j , and associated to ethnolinguistic group e . Further define $ab_{k,t}$ as the earliest interview date conducted by Afrobarometer round $t \in \{3, 4, 5, 6\}$ in cell k . Hence, conflict is aggregated: temporally, over the period between two consecutive Afrobarometer surveys, that is, over the day-unit intervals $AB_{k,t} = \{ab_{k,t-1}, \dots, ab_{k,t} - 1\}$;²⁵

²⁴This match is based on: Lomo and Hovil (2004), the data kindly shared by Rohner *et al* (2013), and the online description of the actor provided by the Uppsala Conflict Data Program at: <https://ucdp.uu.se/actor/585>.

²⁵Note that $ab_{k,2}$ is not present in the data, so that it is arbitrarily set so as to impose a length of the first period approximately equal to the average of the others. Formally:

$$ab_{k,2} = ab_{k,3} - \frac{1}{3} \left(\frac{1}{K_6} \sum_{k \in K_6} ab_{k,6} - \frac{1}{K_3} \sum_{k \in K_3} ab_{k,3} \right)$$

spatially, over all the locations belonging to the cell k . Formally:

$$\tilde{C}_{e,k,t} = \frac{30}{|AB_{k,t}|} \sum_{l \in k} \sum_{j \in AB_{k,t}} c_{e,l,j}$$

Where the term $30 \times |AB_{k,t}|^{-1}$ normalises the conflict count by the number of ‘months’ within a period. The baseline measure of conflict is an indicator function equal to one if there was at least a conflict incident $c_{e,l,j}$ in the relevant temporal-spatial-ethnic window, that is:

$$C_{e,k,t} = \mathbb{1}\{\tilde{C}_{e,k,t} > 0\}$$

The event-based definition of conflict (*i.e.* $\tilde{C}_{e,k,t}$) is used, instead, in robustness checks. Another measure used for sensitivity analysis is the period-normalised count of months with at least a conflict incident.²⁶

C Descriptive statistics

Descriptive statistics for the main outcome and treatment variables are reported in Table 1. As shown in the first column, ethnic identification is on average relatively high: its mean (2.36) is slightly above the value indicating a preference of national over ethnic attributes (2). Summary statistics for ethnic conflict are in the last column. This is a relatively rare event, with roughly 5% of the sample belonging to an ethnic group involved in a conflict in the relevant spatial-temporal window. The majority of warfare in sub-Saharan Africa does not, indeed, unfold along ethnic lines: while 24% of the period-cell units experienced at least a conflict incident, only 5% of the total witnessed ethnic violence.

The relative paucity of ethnic violence masks, however, a great variety of conflict types present in the sample. The following are anecdotal observations based on the analysis done during the match procedure. While not having the pretence of providing a complete description of conflict

where K_3 and K_6 are the sets of cells appearing in period 3 and 6, respectively.

When the interview date is missing – because the cell was not surveyed in that period – it is replaced by the country-specific average interview date, *i.e.* $|K_{p,t}|^{-1} \sum_{k \in K_{p,t}} ab_{k,t}$ where $K_{p,t}$ is the set of cells in country p surveyed during t .

²⁶Define $M_{k,t}$ as the set of unique months belonging to the interval $AB_{k,t}$, hence, the month-based measure of conflict is defined as:

$$\hat{C}_{e,k,t} = \frac{30}{|AB_{k,t}|} \sum_{m \in M_{k,t}} \mathbb{1}\left[\sum_{l \in k} \sum_{j \in m} c_{e,l,j} > 0\right]$$

Table 1: Descriptive statistics

	Social identity	Community meetings	Collective action	Community associations	Ethnic conflict
Mean	2.36	2.15	1.86	0.61	0.046
Sd	1.20	1.30	1.29	0.93	0.210
Min	1	0	0	0	0
Max	5	4	4	3	1
<i>N</i>	103656	110772	110520	110387	111428

The sample includes Afrobarometer rounds 3 to 6.

in sub-Saharan Africa – if anything because clashes between protesters and state forces are excluded from our definition of conflict – they are, nonetheless, a rare occasion in which the black box of ACLED conflict is actually open.

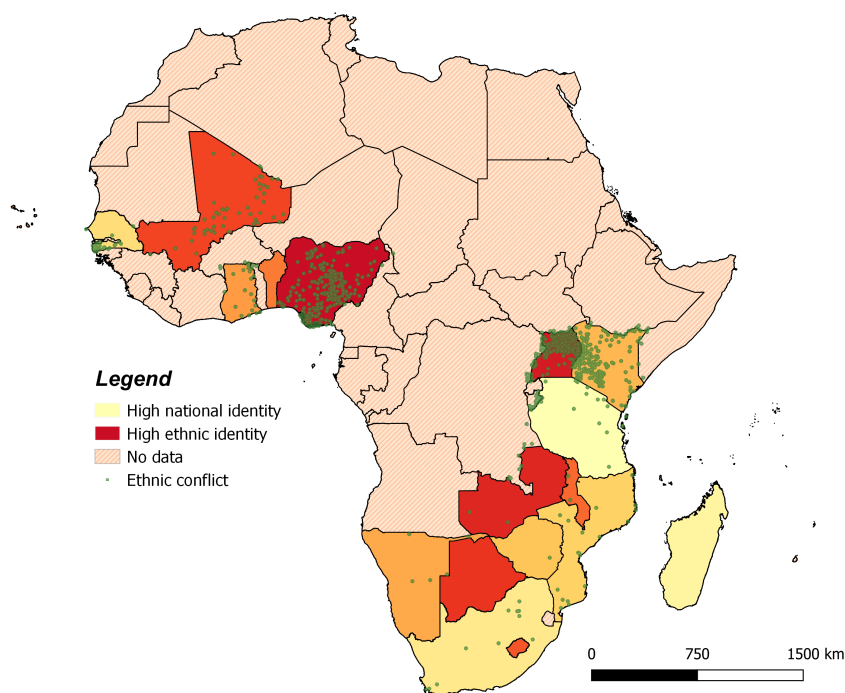
The first remark is that there are few ‘wars’, at least in the meaning popularly attached to the word. Conflicts aiming at regime change or territorial conquest, are extremely rare. Examples of ‘wars’ unfolding in the period considered are: the violent independence pulses erupting in the Niger Delta (Nigeria) since the early 2000s; the Tuareg-cum-Islamist rebellion in northern Mali resurfacing around 2012; and al-Shabaab’s insurgency in Kenya since the beginning of the 2010s.

Particularly present in Nigeria and West Africa at large, is conflict between nomadic Fulani herders and various settled farmer communities. Similarly, pastoralists and agriculturalists have repeatedly clashed in Uganda, where Karamajong have often trespassed private fields. More generally, land conflict – in a continent undergoing a demographic transition – is rather widespread across Africa. The intense ethnic clashes between Mosop and Soi communities of Mount Elgon (Kenya), are among the clearest examples.

Finally, within the sample period, there has been a substantial amount of ethnically-organised political violence. Sometimes, this type of conflict engulfs the whole state apparatus. This is the case of Kenya, where elections are ferocious contests between ethnic-based parties. In other instances, violence unfolds over local power dynamics, most notably, disputes relative to royal succession in traditional sub-national kingdoms; the Dagbani chieftaincy crisis in Ghana being a case point.

Figure 2 gives an overview of the geographical distribution of ethnic conflict. The map also shades countries in base of their average social

Figure 2: Ethnic identity and conflict in selected Sub-Saharan countries



identification value. There are some states, such as Botswana, where ethnic identification is relatively strong even in the absence of abundant conflict. Yet, overall, ethnolinguistic conflict tends to be concentrated in countries where ethnic animosities run higher, Nigeria and Uganda, but also Mali, being the clearest examples.²⁷ Obviously, the map is at most suggestive, giving a static between-country comparison that masks much sub-national and cross-temporal variation.

The visual correlation between ethnic conflict and identification is given strength in Table 2, comparing average social cohesion across the two sub-samples determined by the baseline conflict variable $C_{e,k,t}$: an observation is assigned to the war group when, in her cell of residence, her ethnicity was involved in a conflict during the relevant period (*i.e.* $C_{e,k,t} = 1$). Ethnic identification is statistically greater in this sub-sample, while two out of three measures of social capital are stronger among peaceful ethnicities.

²⁷In the appendix I show that results are robust to the exclusion of the most and least war-prone countries and ethnolinguistic groups.

Table 2: T-test for differences in mean social cohesion across peaceful and violent ethnolinguistic groups

	Mean Peace	Mean War	p-value	<i>N</i> peace	<i>N</i> war
Social identity	2.35	2.63	0.00	98627	5029
Attendance community meetings	2.16	2.01	0.00	105661	5111
Collective action	1.86	1.81	0.00	105410	5110
Community associations	0.60	0.85	0.00	105293	5094
Ethnolinguistic groups	247	65	.	106298	5130
Cells	1931	146	.	106298	5130
Periods	4	4	.	106298	5130

The sample includes Afrobarometer rounds 3 to 6. Cells have a size of $0.5^\circ \times 0.5^\circ$. An observation is assigned to the war sub-sample if, in her cell of residence, her ethnolinguistic group was involved in a conflict during the relevant period.

4 Econometric analysis

A Baseline model

The baseline econometric model consists of a simple linear equation estimated through OLS:

$$y_{i,e,k,t} = \mu_{k,t} + \lambda_{e,t} + \beta C_{e,k,t} + \delta' x_{i,e,k,t} + u_{i,e,k,t} \quad (1)$$

Where, $y_{i,e,d,t}$ measures social behaviour of individual i belonging to ethnolinguistic group e and interviewed by Afrobarometer round t in cell k . The $\mu_{k,t}$ and $\lambda_{e,t}$ terms are sets of cell-period and ethnicity-period fixed effects. The independent variable of interest is the ethnic conflict dummy ($C_{e,k,t}$), equal to 1 when ethnolinguistic group e experiences conflict during t within cell k . The vector $x_{i,e,k,t}$ controls for various individual-level characteristics reported in Afrobarometer surveys. In the baseline estimations, it includes only ‘fixed’ personal attributes that are unlikely to be endogenous in equation (1). These are: age and its square, gender, and an urban-rural indicator. Finally, $u_{i,e,d,t}$ are standard errors clustered at the cell-ethnolinguistic-period level, that is, the level of assignment of the conflict variable.²⁸

²⁸In the appendix it is shown that results are robust to the use of higher-level clustering.

The identification strategy behind the model exploits the triple source of variation of ethnic conflict. The inclusion of cell \times period and ethnicity \times period fixed effects, means that we are using variation within these groups to estimate the marginal impact of interest (β). Indeed, the coefficient captures the difference, over cross-spatial trends in social cohesion, between ethnicities exposed and not exposed to conflict, while holding fixed ethnic-specific time-varying characteristics.²⁹ Such a research framework allows to control for many ethnic-specific, possibly time-varying, factors, which have been shown to correlate with trust attitudes, conflict propensity, and socio-economic outcomes.³⁰ At the same time, through the $\mu_{d,t}$ term, equation (1) controls for institutional elements likely to influence both conflict and social cohesion: land tenure regimes (Boone and Nyeme 2015), national sport competitions (Depretis-Chauvin 2020), elections (Posner 2004, Eifert *et al* 2010), and the overall degree of modernisation and state-building (Miguel 2004, Robinson 2014).

Beyond these omitted variable issues, another obvious threat to inference stems from reverse causality. While ethnic violence is a powerful element in the identity-building process, it might well be the case that more cohesive and fiercer cultural groups engage more often in conflict, having more powerful grievances and mobilisation structures. The ethnic \times period fixed effects dispel these concerns. The model compares people with the same ethnic background and during the same period: ethnic-broad self-selection into violence is effectively taken into account.

Despite the rich set of fixed effects, equation (1) can not provide estimates that are causal in the sense of exploiting (conditional) random variation. Unobserved local ethnic-specific dynamics – such as access to power or temporal resource windfalls – may still bias inference by acting on the group social cohesion and its conflict propensity. A series of imperfect measures is adopted to lower these concerns. First, additional socio-economic and political variables are included in equation (1), thus

²⁹Alternatively, the coefficient can be interpreted as a comparison between people belonging to the same ethnic cluster, but having a different exposure to conflict in virtue of their spatio-temporal location.

³⁰In particular, Nunn and Wantchekon (2011) show how the slave trade resulted into a culture of mistrust in many African countries; Michalopoulos and Papaioannou (2013) link pre-colonial political centralisation to current economic prosperity; Moscona and co-authors (2020) find that ethnic groups with segmentary lineage social structures are more prone to conflict in Sub-Saharan Africa; exclusion from power has also been found as a predictor of violence (Cederman *et al* 2010); finally, ethnolinguistic groups separated by a national border are more likely to initiate conflict (Michalopoulos and Papaioannou 2017).

partially controlling for the above mentioned confounding factors. Second, beyond the dummy conflict variable used in the baseline model, extensive margin measures are used in robustness exercises. Hence, an unobservable varying at the ethnic-period-district level would endanger inference only if it correlates with both the presence and intensity of ethnic violence. Finally, as shown in section 5, most of the results still hold when we consider far-away distant conflict, which is definitely less likely to be influenced by local political or economic shocks.

B Baseline results

Table 3 reports the estimation of the model over social identity. The first regression includes only the three sets of geographic, temporal, and ethnic fixed effects not interacted between themselves. The estimated marginal impact of conflict on ethnic identification is positive. Yet, it has a small size and is statistically indistinguishable from zero. Including cell-period dummies in the second column doubles the size of the coefficient, suggesting the existence of some confounding factor operating at the spatio-temporal level. Local economic development trends seem a likely culprit: while decreasing the chances of conflict, they can simultaneously positively correlate with both social capital and group identification. The third column adds ethnic-period fixed effects. The estimated coefficient further doubles in size to 0.083, finally achieving statistical significance at the 5% threshold. The increase of magnitude can again be explained in terms of omitted variable (*e.g.* access to political power) and underlines the importance of comparing observations belonging to the same cell \times period and ethnic \times period groups. The inclusion of Afrobarometer controls in column four only slightly decreases the magnitude of the coefficient: ethnic violence does indeed increase ethnic identification.

The estimated marginal impacts are not so pronounced, but still have a meaningful size. In the most demanding specification, the coefficient is equal to 0.078. As a reference, the difference between conflict-torn Uganda and the mostly-peaceful Zambian nation is on average equal to 0.199. To better gauge the relevance of conflict, compare it to the coefficient of the rural-urban indicator. Moving from the countryside to an urban centre decreases ethnic identification by 0.057, which is roughly three-quarters of the effect triggered by ethnic violence.

Table 3: OLS regressions of Social identity on Ethnic conflict

	(1)	(2)	(3)	(4)
Conflict indicator	0.021 (0.035)	0.043 (0.033)	0.083 (0.036)**	0.078 (0.036)**
Urban				-0.057 (0.014)***
R^2	0.13	0.21	0.22	0.22
N	103,646	103,605	103,588	101,378
Period FE	Yes	Yes	Yes	Yes
Cell FE	Yes	Yes	Yes	Yes
Ethnic FE	Yes	Yes	Yes	Yes
Cell-period FE	No	Yes	Yes	Yes
Ethnic-period FE	No	No	Yes	Yes
Individual cov.	No	No	No	Yes

The sample includes Afrobarometer rounds 3 to 6. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table 4 reports results from equation 1 as estimated over the three measures of pro-social behaviour here considered. The structure of the tables is the same as above: all regressions include cell, period and ethnic fixed effects, and each column cumulatively adds spatio-temporal dummies, ethnic-period dummies, and individual controls. The control of cell-period fixed effects seems particularly relevant in this context. Indeed, their inclusion substantially increases the magnitude of coefficients, signalling the presence of some unobservable variable positively affecting social cohesion and negatively correlating with conflict (*e.g.* local development trends). The point estimates of the last three columns are positive and mostly statistically significant: ethnic conflict induces pro-social behaviour towards one's own community. Attendance and membership in community bodies are particularly affected by ethnic violence, with estimates always significant at least at the 5% threshold. Participation in instances of collective action is instead significantly impacted by conflict only as long as no individual-level controls are included. If we compare the point estimates of the urban and conflict indicators, we find some relatively small marginal effects of ethnic violence. Indeed, urbanisation has an impact between 1 (membership in community associations) and 3.6 (attendance community meetings)

times greater than conflict exposure.

C Robustness checks

The models at equation (1) are perturbed over several dimensions to test their robustness.

First, sensitivity to alternative conflict definitions is explored. Two extensive measures of ethnic violence are used: the month- and event-based definitions introduced in section 3. Having a lot of zeros, the two variables are parametrised using the inverse hyperbolic sine function; results are nearly identical when natural logs are instead employed. Figure 3 shows their point estimates alongside their 90% confidence interval from regressions employing cell-period and ethnic-period fixed effects and the set of controls including the fixed personal characteristics of respondents. Social identification is not robust to the use of these extensive measures of ethnic violence: while maintaining the expected sign, the coefficients are not statistically different from zero. Estimates over social capital measures are instead always significant, signalling that community engagement is responsive also to the intensity of violence.

A second battery of robustness tests concerns the match between ethnolinguistic groups and conflict actors. The two major issues encountered during the matching procedure were that: (i) the ethnic affiliation of the actor was not always blatantly clear, primarily because of its mixed objectives and identities; (ii) the associated ethnolinguistic group was a sub-group of the reported Afrobarometer language. Figure 4 reports point estimates and 90% confidence intervals from a version of equation (1) excluding these types of controversial matches. Two regressions for each match-outcome pair are run, one including only fixed effect, the other adding individual covariates. Results are mildly robust to alternative matching procedures: the marginal impact on collective action loses significance under both alternative matching rules, while β estimated on regressions over social identity is no longer statistically different than zero when the more imprecise matches are excluded.

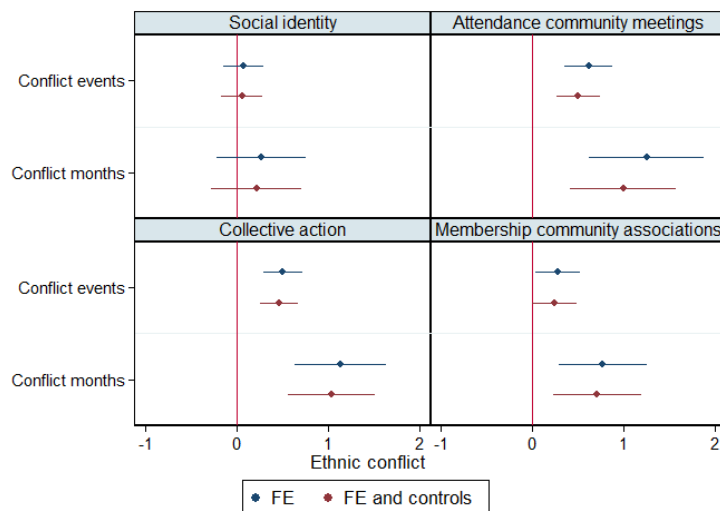
A third series of robustness tests concerns the definition of the sample. First, ethnolinguistic groups not appearing in all four periods are dropped from the analysis. Indeed, their (dis-)appearance from the sample may be related to changes in their socio-political relevance. For example, Afrobarometer survey designers might have chosen to suddenly include a given ethnolinguistic group in light of its recent autonomy struggle. By excluding transient cultural entities, we avoid this type

Table 4: OLS regressions of Social capital on Ethnic conflict

	(1)	(2)	(3)	(4)
ATTENDANCE COMMUNITY MEETINGS				
Conflict indicator	0.031 (0.031)	0.083 (0.037)**	0.095 (0.039)**	0.078 (0.037)**
Urban				-0.282 (0.016)***
R^2	0.16	0.22	0.22	0.27
N	110,763	110,735	110,718	108,389
COLLECTIVE ACTION				
Conflict indicator	0.013 (0.051)	0.077 (0.037)**	0.068 (0.039)*	0.058 (0.038)
Urban				-0.148 (0.014)***
R^2	0.15	0.23	0.23	0.26
N	110,511	110,482	110,464	108,151
MEMBERSHIP COMMUNITY ASSOCIATIONS				
Conflict indicator	0.063 (0.029)**	0.084 (0.029)***	0.085 (0.031)***	0.082 (0.031)***
Urban				-0.085 (0.010)***
R^2	0.11	0.16	0.17	0.18
N	110,378	110,352	110,335	108,029
Period FE	Yes	Yes	Yes	Yes
Cell FE	Yes	Yes	Yes	Yes
Ethnic FE	Yes	Yes	Yes	Yes
Cell-period FE	No	Yes	Yes	Yes
Ethnic-period FE	No	No	Yes	Yes
Individual cov.	No	No	No	Yes

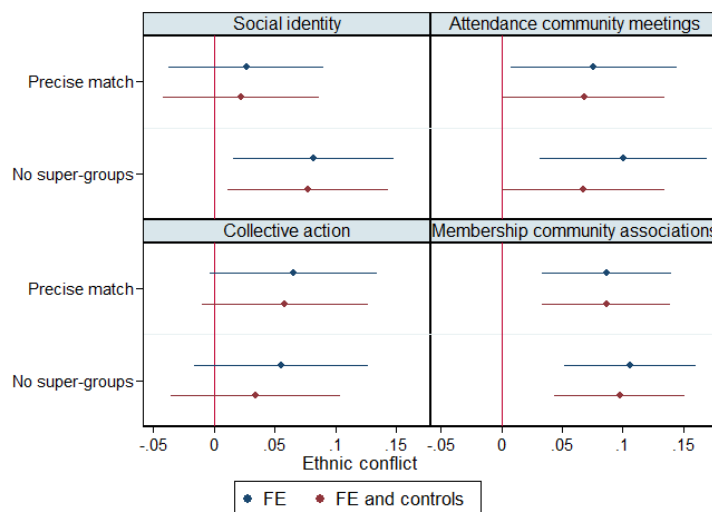
The sample includes Afrobarometer rounds 3 to 6. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Figure 3: OLS regressions of Social cohesion on Ethnic conflict – Alternative conflict measures



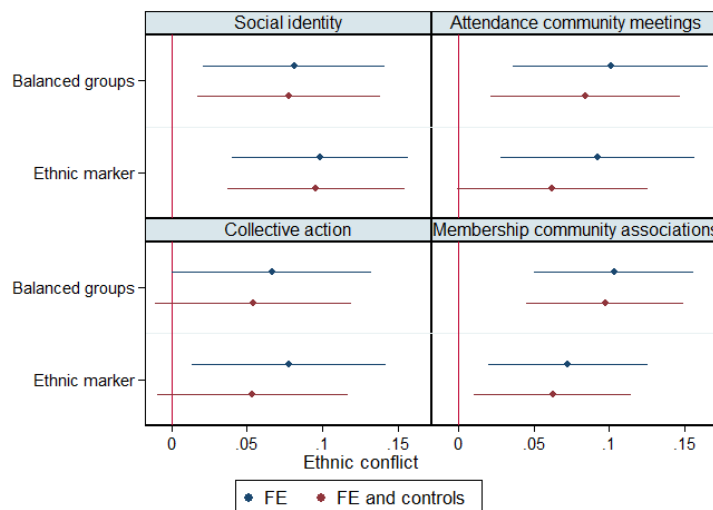
Note: The figure reports point estimates alongside their 90% confidence intervals for the coefficients of the event- and month-based measures of conflict. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level.

Figure 4: OLS regressions of Social cohesion on ethnic conflict – Alternative matching rules



Note: The figure reports point estimates alongside their 90% confidence intervals for the coefficients of the conflict indicator under different actor-ethnicity matching rules. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level.

Figure 5: OLS regressions of Social cohesion on ethnic conflict – Alternative sample restrictions



Note: The figure reports point estimates alongside their 90% confidence intervals for the coefficients of the conflict indicator under different sample restrictions. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level.

of selection issues. The second sample-wide modification concerns the dimension used for defining ethnolinguistic groups. The Afrobarometer question on ethnicity, rather than language, is thus employed. Figure 5 displays point estimates and 90% confidence intervals of the ethnic conflict indicator as retrieved from these alternative samples. Results are identical to the baseline models at tables 3 and 4 but for one coefficient.

The last robustness exercises concern the coding of outcome variables and the inclusion of additional covariates. In the literature, social cohesion measures are often transformed in binary indicators so as to avoid problems related to their possible subjective interpretation. The first two columns of Table 5 repeat this exercise. All the point estimates are statistically significant, with marginal effects remaining of the same order of magnitude – in terms of outcome variable standard deviations – with respect to the baseline estimates. The last two columns of Table 5 include further covariates taken from Afrobarometer surveys. These variables control for the socio-economic profile of respondents as well as their political attitudes. In the first group are included: education, employment status, and an index of household wealth. The political controls comprehend: trust towards the president, trust towards the lo-

cal government, and an indicator function for having voted in the last national election. Their inclusion aims at lowering the risks stemming from omitted variable issues; yet, they themselves might be endogenous in equation (1), and these results shall be read bearing this in mind. Columns three and four thus run specification of equation (1) cumulatively including socio-economic and political controls, beyond the usual set of fixed effects and individual-level covariates. Apart from the estimates relative to the collective action outcome, all coefficients are positive and significant. Importantly, the point estimate on social identity remains positive and significant even when political controls are added. These ensure that the observed increase in ethnic identification is not given by lower attachment to the nation-state, a process possibly triggered by higher conflict levels.

Table 5: OLS regression of Social cohesion on Ethnic conflict – Alternative dependent variable coding & additional controls

	(1)	(2)	(3)	(4)
Dependent variable coding	BINARY		BASELINE	
SOCIAL IDENTITY				
Conflict indicator	0.021 (0.011)*	0.019 (0.011)*	0.066 (0.036)*	0.063 (0.037)*
R^2	0.14	0.14	0.22	0.23
N	103,588	101,378	99,694	89,549
ATTENDANCE COMMUNITY MEETINGS				
Conflict indicator	0.053 (0.015)***	0.047 (0.015)***	0.076 (0.037)**	0.081 (0.038)**
R^2	0.18	0.22	0.27	0.28
N	110,718	108,389	106,575	95,560
COLLECTIVE ACTION				
Conflict indicator	0.045 (0.015)***	0.042 (0.014)***	0.061 (0.038)	0.061 (0.038)
R^2	0.19	0.21	0.27	0.26
N	110,464	108,151	106,374	95,411
MEMBERSHIP COMMUNITY ASSOCIATIONS				
Conflict indicator	0.030 (0.015)**	0.028 (0.014)*	0.091 (0.031)***	0.086 (0.031)***
R^2	0.15	0.17	0.19	0.20
N	110,335	108,029	106,245	95,243
Fixed effects	Yes	Yes	Yes	Yes
Individual cov.	No	Yes	Yes	Yes
Socio-economic cov.	No	No	Yes	Yes
Political cov.	No	No	No	Yes

The sample includes Afrobarometer rounds 3 to 6. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Socio-economic controls include: education, employment status, an index of household wealth. Political controls include: trust towards the president, trust towards the local government, and an indicator function for voting in the last national election. Standard errors are clustered at the cell-ethnolinguistic-period level and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

5 Mechanisms

The empirical analysis in the previous section substantiated a significant and robust link between ethnic conflict and social cohesion. People exposed to ethnic violence reports higher attachment to their cultural group and exhibit greater pro-social behaviour, primarily aimed at their community fellows. As seen in section 1, the perhaps surprising result that conflict can prompt cooperative behaviour has been variously rationalised in the academic world. The rest of this section provides empirical support to the idea that conflict-induced ethnocentric dynamics are central for explaining the observed increase in social capital. Indeed, as one's own ethnolinguistic group is involved in some violent clash, the individual frames herself in ethnic terms, explicitly perceives her group identity, and rallies around it. This rally-around-the-flag effect is not limited to ethnic conflict and is witnessed across a wide range of settings where a group is faced by some external threat. Yet, what is remarkable about ethnic violence is the intensity of such phenomenon, capable of bringing about changes in actual behaviour even in the absence of instrumental incentives.³¹ How can we make sense of this powerful shift in social preferences?

Before tackling the econometric analysis substantiating the primary role of identity-based dynamics in determining the form and extent of post-conflict social cohesion, the next paragraph offers an evolutionary theory of ethnocentrism. Beyond having the merit of introducing a new theoretical framework in economics, whose evolutionary understanding of ethnocentrism has so far been dominated by a single theory,³² the discussion is necessary to appreciate the strength wherewith sectarian conflict can command culturally-oriented behaviours of cooperation and discrimination.

³¹The peculiarities of ethnic warfare are more evident when other conflict types are considered. For example, Peri *et al* (2021) empirically show that terrorist attacks in Europe have not a robust effect on trust towards government institutions and on other political attitudes. Interestingly, the authors find that only *foreign* terrorist attacks have the effect of increasing the appeal of *nationalistic* parties.

³²This is the so-called parochial altruism theory developed by Samuel Bowles. For a brief overview see footnote 37.

A *Ethnocentrism*

Ethnocentrism indicates the instinctive classification of the world into the superior ethnic 'us' and all the 'others'.³³ As such, the concept refers to cultural mutable objects: peoples, nations, ethnicities. Yet, for how much artificial ethnicity is, ethnocentrism seems to be a fairly constant feature of human societies throughout the whole (pre-)history. It is particularly revealing to look at the names that many hunter-gatherer peoples used to refer to themselves. Consider the Eskimos of the Arctic zone, among which the Inuit are perhaps the most well-known ethnic group. All these societies called themselves by many names usually meaning the 'real people' (Gat 2006, pp. 50-51). Moving southwards in the New World, many American Indians also self-defined themselves as the sole legitimate humans. The native American tribes of Niimiipuu (Nez Perce), Lenape (Delaware), Lakota, Illiniwek referred invariably to themselves as 'men', 'people', or 'genuine Indians' (Barbero 2009). Even more telling is the case of the Yanomamo horticulturalists, still inhabiting the fluvial zone between Brazil and Venezuela. "Yanomamo in fact means 'humanity', or at least the most important segment of humanity. All other peoples are known by the term *naba*, a concept that implies an invidious distinction between 'true' man and 'sub-human' man."³⁴

If foraging peoples tended to deny the humanity of other ethnic groups by considering themselves as the only 'men', the picture did not change much with the rise of states and complex societies. As it is well known, ancient Greeks pejoratively defined all the rest of the world as barbarians. The very term barbarian comes from the 'bar-bar' sound whereby Greeks mimicked what they considered grotesque and incomprehensible non-Greek languages. In the classical world, the term will be later enlarged to indicate all those people living outside of the Roman Empire. But this was not a Mediterranean peculiarity. From Chinese to Persians and Indians, much of the pre-modern states have applied the derogative barbarian category to the outer world (Scott 2009 & 2017).

As the brief discussion above has shown, the ethnic-based 'us-them' demarcation of the world is deeply in-grained in human psyche. The overwhelming force of ethnocentrism can not be understood without a reference to its socio-biological underpinnings. As I will explain below,

³³The discussion here presented relies heavily on the treatment in Gat (2006), particularly at chapters 3 and 7.

³⁴Napoleon Chagnon (1968), *Yanomamo social organization and warfare*, Ann Arbor (MI): University Microfilms, as quoted in Gat (2006), p. 51.

ethnocentrism is indeed a residual, almost a manipulation, of natural selection on pro-kinship behaviour.

From an evolutionary perspective, purely altruistic behaviour – diminishing one’s own biological fitness at no personal benefit – can naturally emerge only towards relatives. The cold mechanics of natural selection plainly imply that a given behaviour can be naturally selected if the genes mandating for it are passed on to the next generation. Genetic material is transmitted both through offspring and kin mates. Relatives share some of their genes among themselves, in diminishing proportion as the kin distance increases.³⁵ Humans, as much as other animals,³⁶ have thus developed a natural inclination to help their relatives, with greater sacrifices easily exerted for closer kin.

As a species, *Homo Sapiens* developed almost uniquely during the pre-agricultural era, when humans roamed the world as small bands of hunter-gatherers. For most of *Sapiens* existence, people lived in extended family clans numbering between 20 and 70 members. Developments in linguistic skills around perhaps 70.000 years ago, allowed the formation of tribes, regional groups reuniting several familiar clans (Gat 2006, Harari 2014). The tribe, numbering in the hundreds, shared a common language and was characterised by extensive marriage exchanges among its constituent clans. Therefore, in these prehistoric societies kinship and culture overlapped to a great extent. Beyond phenotypic traits, common language became a primary cue for kinship relations. While not all members of these regional groups were close relatives, they had far greater genetic proximity among themselves than with respect to foreigners. Language was effectively a good indicator of kinship.

Moreover, as these regional groups developed particular cultural attributes, kin-mandated cooperation was further strengthened in virtue of common cultural practices, most notably a shared language. In short, regional hunter-gatherer groups were “bound together by mutually reinforcing and overlapping ties of kinship, social co-operation, and cultural distinctiveness” (Gat 2006, p. 50).

³⁵For example, siblings share, on average, 50% of their genes, while cousins just 12.5%.

³⁶The case of bees is emblematic. They live in colonies whose vast majority of members are siblings or even clones. It is not surprise then to observe incredibly altruistic behaviours: individual bees are ready to sacrifice their lives for the survival of the whole colony, which is a huge repository of the genes present in a single bee (Gat 2006, p. 44).

This is the socio-biological essence of ethnocentrism.³⁷ In the pre-agricultural world, where ethnicity predicted kinship, it is easy to see the evolutionary rationale of the us-them discrimination. Yet, as human societies grew larger and more complex, the application of kin-solidarity to culturally related people (*i.e.* co-ethnics) definitely lost any evolutionary aim. When during the Second World War Japanese kamikazes committed suicide against US ships, they were neither increasing their biological fitness, nor that of any distant relative. Nonetheless, some of them were volunteers, enthusiastically going to risk their lives for the *motherland*. This seemingly irrational behaviour shall be read as a manipulation, an extension beyond its original objective, of kin-based solidarity within small groups.³⁸ It is this the atavistic component of contemporary xenophobia, the same often perplexing observers of ethnic cleansing and genocides.

B Identifying the ethnocentric channel

The use of ethnic-varying conflict and the positive link found between this and ethnic identification, already suggest that the ethnocentric channel is central for explaining the observed increase in pro-social behaviour. The remainder of the paragraph carries out additional tests of this mechanism.

First, if a process of ethnic radicalisation drives the results, we would expect that people are responsive also to distant conflict involving their co-ethnics. Table 6 reports estimates of a model employing conflict spa-

³⁷It shall be stressed that there are also other evolutionary theses explaining ethnocentrism. The most popular among economists is the so-called parochial altruism theory (Bowles 2008 & 2009; Choi and Bowles 2007), whereby in-group cooperation emerged because it gave a competitive edge in conflict among hunter-gatherer bands: more cohesive groups could subjugate the others, hence the natural selection of cooperative traits. For how appealing and elegant the argument is, it rests on the controversial notion of group-selection (Pinker 2012); does not fit well with the raid-and-ambush nature of prehistoric warfare (Gat 2006); can not be extended to other animal species characterised by intensive group-conflict (Wrangham 2019, ch. 7). More robust are the arguments connecting human altruism to a millennial process of self-domestication (Wrangham 2019). These theses are, however, not antithetical to the one here illustrated; they are, indeed, probably complementary inasmuch as they deal with generic human cooperation, rather than limited to co-ethnics.

³⁸The persistence of naturally selected behaviours even if devoid of their evolutionary *raison d'être*, albeit surprising, is typical of humankind. For example, in the same logic, as humans we have a natural love for sweet food, even though sweetness does not serve any more its original evolutionary aim of signalling fruit maturity.

tially aggregated over the eight-cell neighbourhood of each respondent. We are thus considering ethnic violence outside of the cell of the respondent, taking place up to 155km away from each observation. Odd columns include only this external measure of conflict, while even columns add also the baseline local conflict indicator, which otherwise is a plausible omitted variable. The point estimate of distant conflict is always positive and of magnitude similar to that of local violence. Similarly to Table 4, statistical significance is achieved always but for the estimates relative to collective action, which are not different than zero when additional controls are included.

The importance of this exercise is twofold. On the one hand, it lowers the endogeneity issues mentioned in section 4A: local ethnic-specific shocks are unlikely to be correlated to distant clashes. On the other hand, it pins down ethnocentrism as the causal force behind the results of the main empirical analysis. Indeed, alternative mechanisms are ill-suited to explain how remote ethnic violence can trigger higher social cohesion. For example, conflict-induced economic incentives to cooperation (see section 1) work primarily on a geographical base: it is hard to see how local insurance schemes are adopted in response to rumours of distant conflict. Other psychological mechanisms, such as post-traumatic growth, are also usually understood as taking place in the midst of a direct violent trauma.

A second strategy to test the relevance of the ethnocentric channel is to compare ethnic and non-ethnic conflict, whereby only the first should have a significant impact on social cohesion if identity-based dynamics are at play. Define $Z_{-e,k,t}$ as all the conflict activity taking place in cell k at period t and unrelated to ethnolinguistic group e .³⁹ Figure 6 reports point estimates of $Z_{-e,k,t}$ and $C_{e,k,t}$, with their 90% confidence intervals, as retrieved from the following model:

$$y_{i,e,k,t} = \mu_{k,t} + \lambda_{e,t} + \beta C_{e,k,t} + \psi Z_{-e,k,t} + \delta' x_{i,e,k,t} + u_{i,e,k,t} \quad (2)$$

The ‘horse-race’ between ethnic and non-ethnic conflict is clearly won by the first measure of warfare: the coefficient of $Z_{-e,k,t}$ is insignificantly different than zero and always smaller than β . The latter, instead, remains positive and significant, but for the regression of collective action including controls, where, as in the baseline model, the coefficient is

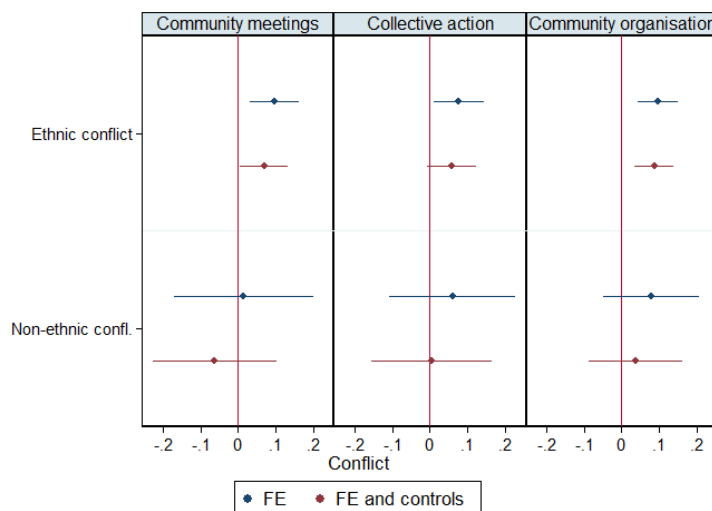
³⁹Recall that for the purpose of this analysis conflict is defined as the ensemble of ACLED events involving rebel groups, political and identity militias. That is to say, $Z_{-e,k,t}$ does not include clashes between protesters and state forces.

Table 6: OLS regressions of Social capital on Distant ethnic conflict

	(1)	(2)	(3)	(4)
ATTENDANCE COMMUNITY MEETINGS				
Distant conflict	0.114 (0.035)***	0.104 (0.036)***	0.079 (0.034)**	0.070 (0.035)**
Local conflict		0.076 (0.039)**		0.066 (0.038)*
R^2	0.22	0.22	0.27	0.27
N	110,718	110,718	108,389	108,389
COLLECTIVE ACTION				
Distant conflict	0.066 (0.033)**	0.058 (0.033)*	0.040 (0.032)	0.033 (0.032)
Local conflict		0.058 (0.039)		0.052 (0.039)
R^2	0.23	0.23	0.26	0.26
N	110,464	110,464	108,151	108,151
MEMBERSHIP COMMUNITY ASSOCIATIONS				
Distant conflict	0.074 (0.028)***	0.064 (0.028)**	0.063 (0.028)**	0.053 (0.028)*
Local conflict		0.074 (0.031)**		0.072 (0.031)**
R^2	0.17	0.17	0.18	0.18
N	110,335	110,335	108,029	108,029
Fixed effects	Yes	Yes	Yes	Yes
Individual cov.	No	No	Yes	Yes

The sample includes Afrobarometer rounds 3 to 6. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Distant conflict is spatially aggregated on the 8-cell neighbourhood of each observation. Standard errors are clustered at the cell-ethnolinguistic-period level and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Figure 6: OLS regressions of Social capital on Ethnic and non-ethnic conflict



Note: The figure reports point estimates alongside their 90% confidence intervals for the coefficients of ethnic and non-ethnic conflict. Fixed effects correspond to cell \times period and ethnic \times period dummies. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level.

marginally below the 10% significance threshold.

Finally, a more direct test of the ethnocentric channel can be easily carried out using an index of ethnolinguistic fractionalisation. This is defined as:

$$ELF_{k,t} = 1 - \sum_e \pi_{e,k,t}^2$$

Where $\pi_{e,k,t}$ is the population share of ethnic group e in cell k at time t . A value of zero indicates that the cell-period is ethnically homogenous (*i.e.* $\pi_{e,k,t} = 1$), while as $ELF_{k,t}$ moves to one ethnic fractionalisation increases. In areas marked by a high ethnolinguistic fragmentation, cooperation at the community level goes benefiting people hailing from different cultural backgrounds. Hence, in these zones, if conflict affects social capital through ethnocentric dynamics, the estimated positive impact should be lower.

We thus define a new model by augmenting equation (1) with the index of ethnolinguistic fractionalisation and its interaction with conflict. Formally:

$$y_{i,e,k,t} = \mu_{k,t} + \lambda_{e,t} + \beta C_{e,k,t} + \alpha(C_{e,k,t} \times ELF_{k,t}) + \delta' x_{i,e,k,t} + u_{i,e,k,t} \quad (3)$$

Note that the term $ELF_{k,t}$ is absorbed by the $\mu_{k,t}$ fixed effects. If conflict-induced pro-social behaviour remains limited to one's own co-ethnics, such a cooperation should be harder to achieve in districts more fractionalised. That is, the joint impact of ethnic fractionalisation and warfare (α) shall be negative.

Table 7 reports estimates of equation (3) for the three social capital outcomes. The first column includes only period, cell, and ethnolinguistic fixed effects, not interacted between themselves. The successive columns add cumulatively cell-period dummies, ethnic-period dummies, and the individual-level covariates. When cell by period fixed effects are not included, β and α are small and hover around zero. As spatio-temporal omitted variables are filtered out by the inclusion of the $\mu_{k,t}$ dummies, the coefficients increase in absolute magnitude and display the expected sign: while conflict still has a positive impact on community engagement, its interaction with the ELF is always negative. The addition of ethnic-time fixed effects and of individual controls tends to further augment the size of coefficients. In the two preferred specifications at columns three and four, the conflict- ELF interaction is negative and, apart for regressions involving attendance at community meetings, significant at least at the 5% level: there are, indeed, heterogeneous effects with respect to the ethnolinguistic composition of the various cell-period observations. As fractionalisation grows higher, the positive impact of ethnic conflict decreases for the very simple fact that within-community cooperation goes benefiting also people from other cultural units. Put it differently, the pro-social impact of conflict is *parochial*, being directed only towards one's own co-ethnics.

As shown in the appendix, the results of this section are robust to: a binary recoding of outcome variables, different actor-ethnicity matching rules, and the use of alternative sample restrictions.

Table 7: OLS regressions of Social capital on Ethnic conflict – Heterogeneous effects by ELF

	(1)	(2)	(3)	(4)
ATTENDANCE COMMUNITY MEETINGS				
Conflict indicator	0.063 (0.055)	0.188 (0.110)*	0.186 (0.115)	0.196 (0.109)*
Conflict-ELF int.	-0.079 (0.118)	-0.188 (0.192)	-0.164 (0.200)	-0.214 (0.185)
ELF	-0.026 (0.044)			
Urban				-0.282 (0.016)***
R^2	0.16	0.22	0.22	0.27
N	110,763	110,735	110,718	108,389
COLLECTIVE ACTION				
Conflict indicator	-0.014 (0.086)	0.322 (0.107)***	0.348 (0.113)***	0.362 (0.107)***
Conflict-ELF int.	0.078 (0.156)	-0.441 (0.189)**	-0.507 (0.196)***	-0.551 (0.186)***
ELF	-0.257 (0.057)***			
Urban				-0.148 (0.014)***
R^2	0.16	0.23	0.23	0.26
N	110,511	110,482	110,464	108,151
MEMBERSHIP COMMUNITY ASSOCIATIONS				
Conflict indicator	0.045 (0.057)	0.207 (0.085)**	0.258 (0.085)***	0.265 (0.085)***
Conflict-ELF int.	0.043 (0.104)	-0.220 (0.145)	-0.311 (0.146)**	-0.332 (0.145)**
ELF	0.012 (0.030)			
Urban				-0.085 (0.010)***
R^2	0.11	0.16	0.17	0.18
N	110,378	110,352	110,335	108,029
Period FE	Yes	Yes	Yes	Yes
Cell FE	Yes	33	Yes	Yes
Ethnic FE	Yes	Yes	Yes	Yes
Cell-period FE	No	Yes	Yes	Yes
Ethnic-period FE	No	No	Yes	Yes
Individual cov.	No	No	No	Yes

The sample includes Afrobarometer rounds 3 to 6. Individual controls include: age and its square, gender, and an urban-rural indicator. Standard errors are clustered at the cell-ethnolinguistic-period level and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

6 Conclusions

This paper has enquired the impact of ethnic conflict on social identity and norms. The setting of the empirical analysis is sub-Saharan Africa, where sub-national identities are still very alive and affect the course of public policy. The research design relies on a novel manually-compiled dataset, linking conflict actors to ethnolinguistic groups. The procedure allowed the construction of conflict measures varying at the spatial, temporal, and ethnic level. This triple source of variation and the ensuing rich set of fixed effects, are at the core of the identification strategy here employed.

Confirming the anecdotal evidence on conflict-induced identity radicalisation, this paper substantiates the first cross-country empirical link between ethnic conflict and ethnic identification. This result is then used to shed lights on the second empirical contribution of this article: ethnic violence prompts cooperative behaviour in communities exposed to it. The positive conflict-identity relationship found and the explicit use of ethnic, rather than geographical, warfare suggest that identity-based psychological processes are at the base of the observed increase in social capital. This intuition is further developed and tested. First, distant ethnic violence still positively affects civic attitudes, making improbable that results are driven by direct war traumas or by the effect of conflict on local institutions. Second, conflict unrelated to the ethnolinguistic group of respondents has not any impact on their community engagement, making clear that the ethnic dimension of conflict is what really matters. Finally, conflict-induced pro-social behaviour is conditional on low levels of ethnolinguistic fractionalisation, indicating that cooperation likely remains limited to one's own group.

A socio-biological understanding of ethnocentrism provides a good theoretical framework to make sense of these findings. Conflict along ethnic cleavages plays, indeed, onto the innate 'us-them' ethnic division of the world, which, as we saw, can neither be dismissed as fully artificial nor as completely genetic. It is, indeed, in light of this complex dual nature that both out-group xenophobia and in-group cooperation shall be read. This paper found evidence on the second, giving empirical support to the idea that, regardless of instrumental considerations, feelings of identification and solidarity towards one's own ethnic 'us' can lead to actual pro-social behaviour, albeit in a parochial fashion.

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