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in Sub-Saharan Africa**

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An Empirical Investigation on Repression in Sub-Saharan Africa

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Abstract

We carry out an empirical investigation on previous theoretical work that focuses on repression as a mechanism for an authoritarian leader to enhance his chances of re-election. We test the theoretical predictions with data on Sub-Saharan Africa in 1981-2006. We find that foreign aid and military expenditure are positively associated with the emergence of political violence, while restrictions on the executive powers are negatively related to the probability of repression. Finally, the age of the leader does not exercise any influence on an African leaders decision to engage in violent suppression of his political competitors.

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1 Introduction

Africa has a long history of violence. Taking over from their colonial predecessors, the primary task of the newly established regimes was to build strong statehood. It was only in the 1980s and through the continent-wide democratisation processes that attention was redirected to the benefit of the ordinary citizens. Since then, treaties, pacts and declarations have been ratified, and committees and organisations have been created to promote human security. Nevertheless, the international community has concerns over the human rights situation in Africa¹.

Tieku (2007) argues that despite the efforts of the African Union to promote respect for human rights, many of the African leaders themselves lack the will to fully institutionalise these rights. Spears (2007) explains that this reluctance originates from these leaders' concerns for their own political survival, which often can be promoted by undermining state-building processes or violently suppressing challenges from within their extended territories.

This paper sets out to investigate state sponsored repression of political opposition. The topic has inspired vast amounts of academic research in the last 40 years, yet scholarly opinion remains divided on all but a few specific aspects. According to Davenport (2007a), the most robust results indicate that democracy has a mitigating effect on politically motivated violence, while political unrest and threats experienced by the government invite repressive measures to guarantee the stability of the society.

The relationship between democracy and state sponsored repression has been found to be negative. Several authors have argued that this relationship is linear (Henderson 1991; Zanger 2000). A number of studies have revealed a non-linear relationship, where a specific threshold defines the level after which democracy acts as a mitigating factor on state sponsored repression, pointing to various semi-democracies as the worst human rights offenders (e.g. Regan and Henderson 2002; Davenport 2004).

Political conflict is often explained as the state's repressive response to behaviour that

¹Amnesty International (2012); Freedom House (2012).

threatens social order. Empirical work has consistently found a positive relationship between threats imposed to challenge government authority and violence used to suppress dissidence (e.g. Gartner and Regan 1996; Regan and Henderson 2002; Hafner-Burton et al. 2012).

Less straightforward is the role that such factors as economic development, diverse social indicators or international influence play or even how these should be measured². The latter has been examined from the point of view of trade agreements (Hafner-Burton 2005a) and economic globalisation (Hafner-Burton 2005b).

The present paper is motivated by the desire to empirically test the theoretical predictions obtained from previous work (Nurmikko 2008). We return to the theoretical framework developed in the paper and recall some of the predictions obtained from our analysis. We also seek to deepen our understanding on the specific conditions that are relevant for Sub-Saharan Africa that associate with political violence. While benefiting from the vast expanses of existing literature, this study is an effort towards unravelling some of the remaining puzzles. Furthermore, the empirical findings that the existing literature provides, can now be reflected upon using a theoretical model.

In Nurmikko (2008) we construct a game-theoretical model to study the circumstances which allow politically motivated violence to become accessible and beneficial to the incumbent leader. A key element of the model is the existence of regular elections, which, as a checkpoint to the accountability of the leader, provide the motivation for employing repression. The violence is used to prevent even an organised and popular opposition from reaching its full potential. This analysis is built around the so-called *collusive equilibrium*, which, if sustained, implies the existence of politically motivated violence. In the collusive equilibrium, the leader offers a bribe to the army, and the latter responds by producing violence. Whether offering a bribe is optimal for the leader, or repressing the opposition lucrative for the army depends on the parameter values, i.e., the circumstances.

The insight the theoretical model has produced includes the prediction that larger pub-

²For instance, economic development has been proxied by GNP/capita (e.g. Poe and Tate 1994; Regan and Henderson 2002; Davenport 2007b), GDP growth per capita (Muller and Weede 1990) and energy consumption per capita (Henderson 1991)

lic resources (which, within the framework of the model, include foreign aid) increase the likelihood of the collusive equilibrium, and thus contributes to the emergence of politically motivated violence. The argument is that foreign aid, while providing leaders with resources to bribe the security forces (to produce violence), first and foremost improves the leader's incentives to remain in collusion. Accordingly, our first hypothesis is that there is a positive relationship between foreign aid and repression.

Foreign aid in connection with human rights abuses has been the focus of much scientific research. An abundance of articles have been motivated by the potential effects of human rights practices on international donors' decisions to grant aid to developing countries. So far, results have been mixed across datasets and methodologies³.

What has been the object of lesser attention is the reverse causality. The literature assessing the impact of foreign assistance on a country's human rights situation is often concentrated on the aid of US origin. Regan (1995) concludes that economic aid from the US has not had a perceptible effect on the receiving nations' human rights agendas. Apodaca (2001) adopted a more global approach and found that foreign aid allocations improved human rights conditions in 152 developing countries in 1990–1996.

Studies concerned with Africa have aimed at identifying a relationship between foreign assistance and the political system, i.e., the quality of government as the level of democracy (Goldsmith 2001a, 2001b). In a case study, Brown (2001) demonstrates how international donations facilitated Arap Moi's stay in power in Kenya. The question of the effects of the aid on the more severe physical integrity rights abuses has not been systematically addressed. To the best of our knowledge, the present study is the first attempt to assess the impact of foreign aid assistance on human rights abuses brought about by the state agents in Sub-

³Most of these studies investigating the US economic and military assistance have concluded that worse human rights violators are less likely to receive aid from the United States (Meernik, Kruger and Poe 1998). There are however a number of studies which have examined European donors' decisions their findings ranging from political rights playing a minor role (Alesina and Dollar 2000), to that of more aid given to the countries whose governments have higher respect for civil liberties and political freedom (Berthelemy 2006). As for the more severe human rights abuses (torture, political killings), a few studies have sought to pin down the impact on European donors' decisions (Zanger 2000b; Carey 2007). A related issue is whether corrupt governments receive less foreign aid. According to Alesina and Weder (2002) this is not the case.

Saharan Africa.

Returning to the theory, we also conclude that the greater the resources available to the military in the opposition regime (the military budget), the lower the likelihood of politically motivated violence. As the army's payoff in democracy increases, its incentives to collude with the leader decrease. A larger bribe is needed to give an incentive for the military to harass the members of the opposition. Our second hypothesis holds the expectation that the higher the resources allocated to the army (higher military expenditure), by the incumbent, the higher the probability of violent activities instigated by the military.

Diverse characteristics of the military institution have been employed to explain human rights abuses. With the exception of Regan (1995), who includes the size of the military personnel as a variable into the analysis, the influence of the army is mostly captured by the degree of control that it exercises over the executive (Poe and Tate 1994; Poe, Tate and Keith 1999; Davenport and Armstrong 2004; Davenport 2007b)⁴. This research has generally found that the more powerful the military, the higher the likelihood that coercion is applied.

Another theoretical prediction obtained earlier is that the harsher the potential punishment of an abusive leader (implemented by an opposition regime) the more likely the collusive behaviour. The reason for this is that a stricter anticipated punishment encourages the incumbent to resort to violence as a means to prolong his regime. The logic is simple: A harsh punishment lowers the expected payoff in the alternative regime, thus making the incumbent more willing to share the resources with the army (to encourage violence against opposition) in order to improve his chances of re-election. These arguments are the foundation of our third hypothesis that a stricter expected punishment of the leader is positively related to state sponsored violence.

Recent studies have also raised the question of retribution. According to Sikkink and Booth Walling (2007), the general tendency has been to conclude that human right trials – the boom for which started in the mid-1980s – do not encourage new democracies. They are

⁴All but a few studies include variables indicating involvement in domestic or external conflict and the ones that do find strong evidence of positive association with human rights abuses. In addition to the military expenditure, we also control for the conflict.

arguably counterproductive in the establishment of solid foundations for democracy. Sikink and Booth Walling concluded, however, that the increase in human rights trials has not lead to an increase in human rights abuses in Latin America. As stated above, we take a contrary standpoint and hypothesise that a more severe expected retribution for the leader *increases* the chances that the citizens will be repressed.

Finally, consider our previous theoretical analysis on the discount factors of the leader and the military. We learned that the higher the discount factor of the leader, the more likely is the collusive equilibrium, and thus repression. A more patient leader is willing to consume less today as the value of the resources is even higher tomorrow. In the empirical framework, this will be formulated as follows: The older the leader, the more *impatient* he is, as the remaining expected lifetime is shorter. He prefers to consume more now, rather than share the resources with the military. Hence, the older the leader, the less likely the violence.

That we include a variable measuring some personal characteristics of a leader is to our knowledge unique. Age as a proxy for a degree of patience is only one option and we hope to discover more accurate measures of this dimension in future research.

The data for Sub-Saharan Africa in 1981–2001 indicate that foreign aid is positively linked to the emergence of political violence. This confirms our theoretical prediction. Increasing foreign aid increases the leader's incentives to fight for power. He allocates rents to the military, which in turn, produces violence.

Moreover, the empirical finding on military expenditure corroborates the theoretical counterpart. Increases in military expenditure are positively associated with the likelihood of repression within a country. The theory enlightens us more about the mechanism at work: Greater military expenditure guarantees more funds for the military under the current regime. The military favours the current regime and therefore promotes its survival by repressing any opponents.

As expected, the incumbent's lower expected punishment is negatively associated with violence. The more restricted the leader's actions are today, the milder the expected punishment in the future. Consequently, the less eager the leader to hold on to power, and the less

the need to use violence.

As for the age of the leader, there is no effect on the emergence of politically motivated violence within the African continent. This means that the level of patience of the leader (i.e. how large is his discount factor) does not empirically predict his willingness to share the resources with the military.

The rest of the paper is organised as follows. In the next section, we discuss the general characteristics of the dataset. Section 3 presents the results and in section 4 we conclude.

2 Description of the Data

2.1 The Dependent Variable

Our panel dataset consists of the 42 continental Sub-Saharan African countries through years 1981-2001⁵. The decision to restrict attention to this particular region will allow us to gain a deeper understanding of political violence in the African context, which is where we want to direct our efforts.

The dependent variable is the 'Government Respect for Physical Integrity Rights', obtained from the CIRI Human Rights dataset. This is one of the two common measures of a country's human rights situation. The rather strong argument in favour of the variable from the CIRI data as opposed to the well known PTS (Political Terror Scale) score, is that the former explicitly focuses on the human rights abuses committed by the governments, and not the overall human rights situation (also affected by non-state actors)⁶.

The variable 'Government Respect for Physical Integrity Rights' is an additive index generated by the combination of the scores attributed to four distinct rights that generally con-

⁵The island nations of Sub-Saharan Africa were excluded because of their small sizes. The dataset only covers this time span because of restricted availability of data on the explanatory variables. As for the dependent variable, data through 1981–2006 is available.

⁶It is noteworthy, that the PTS is highly correlated with the 'Government respect for human rights' variable (0.78). We ran all the estimations also using the PTS score to compare the performances of the two indicators. The results from regressions with PTS as the dependent variable were to a large extent similar to the main results; however, they displayed much weaker statistical significance, possibly due to the lower number of observations.

stitute the concept of physical (or personal) integrity rights of a person. These are the rights to be free from torture, political imprisonment, extrajudicial killings, and disappearances.

In the CIRI data, each of the individual rights is evaluated on a scale from 0 to 2 based on the frequency of events occurred in a country in a given year. A score of 2 refers to no violations at all of a particular right, a score of 1 to more than 0 but less than 50 violations, while a score of 0 implies that there have been 50 or more confirmed violations. Adding up the scores of each right produces the composite score, ranging from 0 to 8. Overall, a score of 8 represents full government respect for all four physical integrity rights, while a score of 0 reflects the opposite. The sources of the data used to generate the variable are the annual *State Department Country Reports on Human Rights Practices* and Amnesty International annual reports⁷.

2.2 Human Rights in Sub-Saharan Africa 1981–2006

Although generally considered precarious, the human rights conditions of individual countries show substantial variation across the region. Examination of Tables 1 and 2 reveals that the gap between the best and the worst performers is significant. While in the 1980s the average score of the worst performer, Ethiopia, was as low as 1, the best performer, Ivory Coast, was assigned the score of 7.56. Similarly, the difference between Sudan (0.6) and Benin (7.5) in the 1990s is remarkable. During 2000–06, Sudan continued to receive a very low score, 0.57, while at the other extreme, Mali scored 7.14.

The countries whose governments are the worst offenders remain to large extent the same through the years between 1981–2006. Angola, Chad, Ethiopia and Sudan all have scores that rank these countries among the lowest 10 in the sample during each of the decades. The Democratic Republic of Congo (DRC) is another country whose government has shown little respect for the rights of its citizens during the 1980s and 2000–06. Arguably, the respect for

⁷For detailed explanation of the characteristics and potential uses of the dependent variable see Cingranelli, David L. and David L. Richards. 1999. Measuring the Level, Pattern and Sequence of Government Respect for Physical Integrity Rights. *International Studies Quarterly*, 43, 407–417.

Table 1: 10 Worst Average Scores of Human Rights per Decade

Country	1981–89	Country	1990–99	Country	2000–06
Ethiopia, Uganda	1	Sudan	0.6	Sudan	0.57
South Africa	1.33	Rwanda	1.3	Burundi	0.86
Namibia	1.67	Angola	1.33	DRC	1.67
Mozambique	2.22	Burundi	1.57	Ethiopia	1.43
Chad	2.33	Sierra Leone	1.71	Nigeria	1.86
DRC	2.38	Chad	2	Ivory Coast	2
Somalia	2.78	Cameroon	2.2	Uganda	2.14
Angola	3.22	Ethiopia	2.22	Angola, Zimbabwe	2.43
Sudan	3.67	Senegal	2.6	Chad, Kenya, Rwanda	2.86
Zimbabwe	3.89	Nigeria	2.8	Cameroon	3

Source: CIRI database.

human rights was low also during 1990–99, but lack of data for most of the decade prevents any firm conclusions⁸.

Table 2 represents the countries whose governments are amongst the most respectful of physical integrity rights. We note that half of the ten best average scores are obtained by countries which perform within the top ten scores during each decade. While Botswana shows a constantly high score through the decades, there are also Gabon, Gambia, Guinea-Bissau and Niger whose citizens have lived under the auspices of benevolent governments.

On the positive developments, Namibia’s average score rose from 1.67 in the 1980s to 6 in the 1990s and declined slightly to 5.29 for 2000–06. This drastic amelioration in the physical integrity rights score coincides with Namibia’s independence from South Africa in 1990.

On the more unfortunate side, the score assigned to Burundi declined substantially from 5.44 in the 1980s to 1.57 in the 1990s, continuing its decline to a mere 0.86 in 2000–06. The variable seems to reflect the mass killings and acts of genocides targeted by the state and militia groups at both the Tutu and Hutsi civilians.

Similar trends are shown by the scores attributed to the Nigerian governments, although

⁸To be precise, the years 1992–99 in the DRC are classified in the CIRI dataset as ‘a period of interregnum, during which there is a complete collapse of central political authority’. But the scores assigned to the DRC in 1990 and 1991 were 0 and 1, respectively.

Table 2: 10 Best Average Scores of Human Rights per Decade

Country	1981-89	Country	1990-99	Country	2000-06
Ivory Coast	7.56	Benin	7.5	Mali	7.14
Botswana	7.33	Botswana	6.7	Botswana	6.86
Gambia	7.11	Gambia	6.4	Benin	6.71
Niger	6.89	Gabon	6.2	Gabon, Lesotho	6.29
Gabon, Rwanda	6.67	Namibia	6	Niger	6.14
Sierra Leone	6.44	Ghana	5.7	Guinea-Bissau	5.86
Guinea-Bissau, Mali	6.22	Swaziland	5.6	Gambia, Ghana	5.57
Mauritania	5.67	Guinea-Bissau	5.33	Sierra Leone	5.5
Senegal	5.55	Malawi	5.3	Mauritania, Namibia	5.29
Burundi, Nigeria, Tanzania, Togo	5.44	Burkina Faso, Niger	5.2	Djibouti	5.2

Source: CIRI database.

associated with different events of history. The score of the 1990s seems to reflect the military regime headed by General Sani Abacha during 1993–1998, known for his brutal suppression of opposition to his leadership. Ethnic conflicts over the oil producing Niger Delta region may account for the low score in 2000–06.

2.3 Other variables

The explanatory variables have been collected from a variety of sources. Foreign aid is measured as a ratio of Official Development Assistance (ODA) to the final government consumption expenditure, both measured in current US dollars. Data for ODA was obtained from the WDI database, and government expenditures were extracted from the UN Common database.

The data for military expenditure (current US dollars) was collected from the Correlates of War project’s National Material Capabilities dataset. The data for military expenditure is specifically generated to reflect a nation’s military capabilities⁹. The ratio of military expenditure to GDP was computed using the GDP in current US dollars from the WDI database.

⁹Correlates of War Project National Material Capabilities Data Documentation Version 3.0, available at <http://www.correlatesofwar.org/>.

The extent of institutional constraints imposed on a leader is captured by the variable 'Executive constraints' from the Polity IV database. Executive constraints is an ordinal variable ranging from 1 to 7, where a higher score translates into a more limited space of manoeuvre for the head of state. Depending on the society, the constraints may take the form of the military in countries at a risk of a coup, legislatures as in Western democracies, the ruling party in one-party states, or, simply, the independent judiciary.

The degree of patience is proxied by the age of the leader. Recall that the older the leader, the shorter the expected remaining lifetime. This makes him more impatient. The age of each leader in each year was obtained by consulting Wikipedia and another internet site listing the rulers of countries worldwide, as well as their dates of birth¹⁰. Based on the date of birth, the age at the beginning of the year was computed.

We include a set of control variables. The data for civil and interstate war originates in the UNCP/PRIO Armed Conflict Database Version 4-2007¹¹. We include a dummy variable for civil war where the intensity of the conflict has required at least 1000 casualties in a given year. The dummy variable for civil war includes those conflicts where there was intervention from a third party. In line with the existing literature, a dummy for an interstate conflict (a conflict extending beyond the national boundaries) is also included into the statistical analysis.

Another potentially relevant factor in the determination of political violence is the ethnic diversity of a country. Various indices measuring ethnic fractionalization have been developed, of which one of the most common appears to be the ELF-index (Ethno-Linguistic Fractionalization)¹². Posner (2004) has proposed an index measuring ethnic diversity as the number of groups that are actively involved in political competition. It is precisely the number of politically active groups, often defined along ethnic lines, that is linked to political tensions, and consequently, to political repression in Sub-Saharan Africa. As such, using Posner's PREG

¹⁰www.rulers.org and www.wikipedia.org.

¹¹Gleditsch et al. 2002. Armed Conflict 1946-2001: A New Dataset, *Journal of Peace Research* 39(5): 615-637.

¹²The ELF index measures the probability of two randomly selected individuals in a country belonging to different ethno-linguistic groups. A higher index implies higher fractionalization.

(Politically Relevant Ethnic Groups) index to control for ethnic diversity seems particularly appropriate here.

We also control for the presence of multiparty presidential elections. Our basic argument is that elections, by providing an opportunity to the citizens to replace an unpopular ruler, increase the vulnerability of the regime. This invites tough measures to invalidate the opposition's efforts to attain power¹³. We include a dummy variable, where 1 stands for multiparty presidential elections in a given year, and 0 denotes no elections¹⁴. The information to construct the dummy variable was obtained from the Internet site called *African Elections Database*, except for the case of Sudan where various sources were used to generate the variable¹⁵.

Finally, we also included such fixed factors as the area, landlockedness and colonial past into the statistical analysis. The data for the area was obtained from the *CIA World Factbook*, and coding for the colonial past followed that of the dataset on African countries compiled by Robert Bates¹⁶.

3 Empirical Estimates

We use the logistic fixed effects estimator for panel data, as proposed for binary dependent variables (Greene 2008). To that end, we have divided the 9-point scale index for Government Respect for Human Rights into two categories, 0 and 1. Noting the construction of the original index, 1 stands for no political violence (full respect for physical integrity rights), and 0 to

¹³We would agree that the effect of the elections could be exactly the opposite. In fact, elections have been used as a proxy for democracy, which, in turn, has been consistently found to have a positive effect on the human rights situation in a country. It has been questioned, however, whether elections qualify as a proxy for democracy (e.g. Richards and Gelleny 2007). As is well known, many African countries have established multiparty elections so as to satisfy foreign aid donors. It should be clear that in this study elections are not employed to reflect the degree of democracy in a given country.

¹⁴In countries where the legislative branch of the state is responsible for choosing the President or the Head of State, or the leader of the major party automatically becoming the Head of State, we decided to code the year of the elections with legislative elections as 1. In this case, legislative elections could be seen as competition for the ultimate position for power. These cases include Botswana, Ethiopia, Lesotho and South Africa.

¹⁵<http://africanelections.tripod.com/>.

¹⁶<https://www.cia.gov/library/publications/the-world-factbook/>; <http://africa.gov.harvard.edu/>

political violence (no respect for these rights). We check the estimates against those obtained from pooled logistic regression.

In Table 3, we present the regression results. Model (1) refers to the fixed effects logistic regression and (2) to the logistic regression, both for a binary dependent variable. In Model (3), we again use fixed effects regression and in (4) check the estimates with logistic regression. Since data for military expenditure is available only for 1981–2001, including them to the regression reduces the overall number of observations by approximately 130. Given the small number of data, this is a substantial proportion. We run two separate regressions, one excluding the military expenditure in order to see if the difference in the number of observations results in larger standard errors. An overall view of Table 3 shows that this is not the case.

From Table 3, we see that three out of the four variables of interest are statistically significant. As expected, foreign aid has a negative coefficient. Hence, an increase in the ratio of foreign aid to the government consumption *increases* the probability of politically motivated violence. When checking against the alternative estimator, the logistic regression, we find that the coefficient is close to the size of the one in column (1) and significant at 1 percent level. Column (3) displays the results from the regression including military expenditure. Again, signs of the coefficient for foreign aid are negative and significant at 5 and 1 percent levels for the logistic fixed effects and pooled logistic estimators, respectively.

While a compelling piece of evidence on the adverse effects of foreign aid on the human rights situation, one might, quite rightly, doubt the direction of causality. After all, as noted above, a multitude of studies have been contributed to the assessment of human rights on foreign aid donors' decision rules. For this reason, we ran another regression replacing foreign aid with its lagged counterpart. The coefficient was negative and significant as reported in Table 4. Even this does not fully confirm causality, but we are encouraged by the fact that the association is in the right direction.

We hypothesised that military expenditure is positively associated with worse human rights conditions. Granting more generous resources to the military makes the incumbent

regime more preferable to the former. Examination of Table 3 shows that the coefficient of the variable measuring military expenditure is negative, consistent with the theory. The relationship is also statistically significant at 5 percent level¹⁷.

This supports the theoretical result, but should be interpreted with caution. The method for defining military expenditures in the Correlates of War dataset emphasises the overall military capacity of the country. It does not solely measure the expenditures of the government to finance the violent suppression of the opponent's of its regime. It is therefore possible that the impact of military expenditure on repression is somewhat overestimated. Nevertheless, it may be argued that the more resources at its disposition, the more inclined the military to promote longevity of the incumbent regime.

Given that the military expenditure may be overestimating the impact on political violence, we checked the result using military personnel as a proxy for the resources devoted by the leader to the military¹⁸. It could be argued that this variable is more accurate in measuring the military capacity of the state, while being an indicator of the extent of resources channeled to the army. Importantly, the variable representing military personnel is a significant regressor and turns out with the expected sign (negative), although the size of the coefficient is very small.

Executive constraints are signed with a positive coefficient. The more limited the powers of the leader, the smaller the chances that there are human rights abuses. The effect is statistically significant at 1 percent level for model (1), (2) and (3) and at 5 percent level for model (4).

Recall that here, the aim is to relate the executive constraints to the payoff that the leader may expect when *out* of power. If the institutions regulating an executive's political sovereignty are strong, then illegal activities become costlier for the leader as it increases the chances of losing power. It is to be expected that leaders in such environments conduct less

¹⁷Because of the huge size of the coefficient, we checked with different convergent criteria to rule out the possibility that the model may not have converged. We found that this is not the case.

¹⁸Data for military personnel is also obtained from the Correlates of War dataset, and is measured in thousands. The correlation between military expenditure and military personnel is 0.37.

criminal activities, including human rights violations. Now, the fewer the criminal activities in the current period, the lower the expected punishment in the *next* period. The expected payoff once out of power will be higher, and the leader's incentives to prolong his regime will be weaker. Hence, the incentives of the leader to induce political violence into the electoral process will decrease. Following this logic, the empirical result is consistent with the theoretical one.

The finding is also consistent with the existing literature, insofar as executive constraints may be considered as a measure of the degree of democracy¹⁹. Yet executive constraints are generally considered as only one component of the variable 'democracy'. Other components reflect such issues as regulations on the participation of the citizens into political decision making and the competitiveness and openness of executive recruitment. Our aim is to capture the limitations on the capacities of the executive, and examine how this translates into repressive measures. It is only partially, albeit in parallel, that the effects of democracy are, or wish to be, considered.

Finally, we found no implication that the leader's age, that is, the degree of his patience, should have an effect on the emergence of politically motivated violence. Not only are the coefficients extremely small in size, they are not statistically significant.

To further investigate the matter, we constructed another variable for capturing the impact of patience on the potential emergence of violence. We computed the years in power of a leader, with the following intuition: The longer the leader has been in power, the *shorter* he expects the remaining time to be, and the more impatient he is. Hence, the longer the duration, the lower is the probability that there is political violence²⁰. We found that the variable 'years in power' is statistically significant at 10 percent level, and, importantly, has the theoretically correct sign. Nevertheless, age as a proxy for impatience seems to us to have more credibility which is why it is given priority in reporting the results.

¹⁹We are referring to the existing literature, cited in the introduction to the chapter, on democracy as a determinant of human rights conditions.

²⁰Years in power was computed as full years in the beginning of the year, based on the information obtained in the www.rulers.org website.

Table 3: Determinants of Political Repression

Dependent variable is Government Respect for Physical Integrity Rights.

Independent variable	Fixed Effects (1)	Logit (2)	Fixed Effects (3)	Logit (4)
Foreign Aid	-0.362** (0.18)	-0.311*** (0.12)	-0.348** (0.14)	-0.262*** (0.09)
Military expenditure	-9.388** (4.71)	-17.008** (5.89)		
Exec. constraints	0.357*** (0.10)	0.143** (0.07)	0.424*** (0.09)	0.260*** (0.06)
Age	-0.002 (0.01)	-0.006 (0.01)	0.007 (0.01)	-0.008 (0.01)
Civil war	-3.128*** (0.87)	-3.152*** (0.77)	-2.800*** (0.75)	-3.010*** (0.62)
External conflict	0.739 (0.60)	0.246 (0.79)	0.198 (0.53)	0.152 (0.81)
Presidential elections	-0.508 (0.33)	-0.548** (0.28)	-0.436 (0.29)	-0.403 (0.25)
Population	-4.913*** (0.84)	-0.765*** (0.13)	-4.192*** (0.69)	-0.728*** (0.11)
PREG		-1.411** (0.59)		-0.947* (0.49)
Area		1.70e-07 (2.03e-07)		-8.92e-09 (1.96e-07)
Landlockedness		-0.173 (0.23)		-0.209 (0.21)
British ex-colony		0.685 (0.45)		1.203*** (0.41)
French ex-colony		0.205 (0.43)		0.957** (0.39)
Portug. ex-colony		1.656** (0.72)		1.349** (0.54)
Belgian ex-colony		0.266 (0.55)		0.792 (0.53)
Number of obs	607	622	737	751

Standard errors in parentheses.

The asterisks *, ** and *** denote statistical significance at 10, 5 and 1 percent, respectively.

As for the control variables, unsurprisingly, and as has been found by other authors, domestic conflict has a negative influence on the respect for physical integrity rights. The coefficient is statistically significant at 1 percent level. That conflicts should be strong determinants of politically motivated violence is usually explained by the increased level of threats experienced by the state authority brought about in those conditions (e.g. Poe, Tate and Keith 1999).

Along with a line of literature, we confirm that population size exerts an influence on human rights scores (Henderson 1991). The coefficient is significant at 1 percent level. On the contrary, we find that participation in an external conflict is not statistically connected to the existence of repression.

From Table 3, the effect of multiparty presidential elections on political violence is significant at 5 percent level only in column (2). Nevertheless, the coefficient is negative and roughly of the same size throughout models and specifications. This gives us confidence that the low explanatory power of the variable may be due to data restrictions rather than the lack of impact of elections on standards applied to human rights in these countries.

We ran the same regressions for legislative elections and found a significant effect with a slightly larger coefficient. This seems to suggest that elections in Africa are a matter of concern when it comes to human rights issues. We join Richards and Gelleny (2007) in their conclusion that more evidence is needed for a country to be classified as a democracy.

In terms of the fixed factors, a variable of interest is PREG, a measure of ethnic fractionalisation that emphasises political competition between different ethnic groups. Although this variable is allowed to vary through times, the scores for Sub-Saharan Africa show such stable evolution that to include the variable into models (1), (3) and (5) is pointless.

As for the logistic regressions, PREG is significant at the 5 percent level in column (2) and at 10 percent even in column (4). Intuitively, the more dispersed the political battleground, the more room there is for conflict, and the more inclined the government to resort to violent measures, rather than attempt to satisfy the demands of each different group.

Table 4: Determinants of Political Repression

Dependent variable is Government Respect for Physical Integrity Rights.

Independent variable	FE Logit (5)	Logit (6)
Lagged For. Aid	-0.358** (0.17)	-0.319*** (0.10)
Military exp.	-9.580** (4.62)	-16.912*** (5.77)
Exec. constraints	0.355*** (0.10)	0.142** (0.07)
Age	-0.003 (0.01)	-0.006 (0.01)
Civil war	-3.254*** (0.88)	-3.233*** (0.78)
External conflict	0.865 (0.61)	0.318 (0.75)
Presidential elections	-0.459 (0.33)	-0.507 (0.28)
Population	-4.865*** (0.83)	-0.764*** (0.13)
PREG		-1.441** (0.59)
Area		1.78e-07 (2.03e-07)
Landlockedness		-0.172 (0.23)
British ex-colony		0.663 (0.45)
French ex-colony		0.172 (0.43)
Portug. ex-colony		1.685** (0.71)
Belgian ex-colony		0.275 (0.54)
Number of obs	606	622

Standard errors in parentheses.

The asterisks *, ** and *** denote statistical significance at 10, 5 and 1 percent, respectively.

It may be argued that domestic conflict and ethnic diversity capture a similar aspect of the human rights score, as they both provide a challenging environment for the government to work in. Despite the possibility of an overlap, if any, we believe that the two variables, as they both turn out to be statistically significant, should be included, and treated as separate aspects of human rights violations. This to our knowledge has not been done carefully in existing literature, which largely ignores the existence of ethnically relevant factors.

The fixed factors of area, landlockedness as well as the colonial past have no effect on human rights scores. An interesting exception is the variable 'Portuguese ex-colonies' that has a consistently significant and a rather large coefficient, whether or not we include military expenditure.

4 Concluding Remarks

Motivated by the theoretical predictions from previous work as well as the generous literature produced by political scientists and human rights researchers, we have carried out an empirical investigation on the determinants of political violence in Sub-Saharan Africa.

Overall, we obtained empirical justification for three out of four theoretical predictions that we set out to test. Firstly, we found that foreign aid is politically associated with the probability of political violence. The explanation is that foreign aid increases the resources of the leader and, importantly, the value of rents from holding office. The leader is then willing to share the public resources with the army which supports him in the electoral race. The finding undoubtedly adds to the view on the disadvantages of foreign aid, and is strengthened by the fact that both the theory and empirical facts coincide. Further research on this topic may later reveal other important aspects to consider and may establish a more robust causal relationship.

An increase in the military expenditure increases the probability of repression. This points to the obvious conclusion that the devotion of fewer resources to military activities under an authoritarian regime is beneficial for society. In light of the theory, fewer resources from the

current regime imply relatively greater resources from the opposition regime to the military. This, in turn, implies a reduced likelihood of political violence. While the basic argument is this, it should be investigated, in more detail, as to which form of resources (military or financial) best advances the opposition's cause for democracy.

The consensus on the benefits of strong democratic institutions to any society and its citizens was supported by the results obtained in this study. We found that the more the political leaders are restricted in their actions, the smaller the probability of political violence. The theory identifies the dynamics: The more restricted the executive, the smaller the scope for illegal activities. Hence, the smaller the expected punishment, in other words, the larger the payoff when the leader is ousted. The less inclined is the leader to cling on to power, and the smaller is the incentive to resort to violence.

We included a number of variables that the literature has emphasised as relevant in the determination of the emergence of politically motivated violence. Perhaps the most interesting result was the role played by ethnic diversity, and one that should merit more scientific attention especially from the theoretical point of view.

This paper was designed to provide an empirical aspect of the violence taking place in Sub-Saharan Africa. Having fulfilled this task, we are interested in advancing the current exercise in a couple of dimensions. In the first instance, the aim is to expand the dataset to include Latin American and Asian countries. Secondly, the establishment of firm causal relationships is important. While already supported by the theory, these empirical results would gain additional weight if causality was successfully proven.

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