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Fighting African Conflicts and Crimes: Which Governance Tools Matter?

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WP/13/007

Fighting African Conflicts and Crimes: Which Governance Tools Matter?

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AGDI Working Paper

Research Department

Fighting African Conflicts and Crimes: Which Governance Tools Matter?

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January 2013

Abstract

Crimes and conflicts are seriously undermining African development. This article assesses the best governance tools in the fight against the scourges. The following findings are established. (1) Democracy, autocracy and voice & accountability have no significant negative correlations with crime. (2) The increasing relevance of government quality in the fight is as follows: regulation quality, government effectiveness, political stability, rule of law and corruption-control. (3) Corruption-control is the most effective mechanism in fighting crime (conflicts). The findings are significantly strong when controlling for age dependency, number of police (and security) officers, per capita economic prosperity, educational level and population density. Justifications for the edge of corruption-control (as the most effective governance tool) and policy implications are discussed.

JEL Classification: F52; K42; O17; O55; P16

Keywords: Security; Governance; Conflicts; Crime; Africa

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1. Introduction

Crime substantially undermines African development by, inter alia, eroding social and human capital, infringing on social and political stability and driving-up the cost of doing business. Since time immemorial, governments have been expected to improve the quality of life and wellbeing of their citizens by protecting the lives and property of these citizens from crime and conflicts. Accordingly, a sustainable macroeconomic growth path as a means of meeting the above ends could be seriously stifled by poor government quality, especially corruption (Mauro, 1995). This has led to a recent strand of studies focusing on the fundamental issue of the relationship between government quality and wellbeing (Helliwell & Huang 2008; Ott 2010; Yamamura et al., 2012).

Over the past decades, the concern of crimes (and conflicts) and the search for solutions to tackle their corrosive effects has seen renewed interest as an issue of public debate and criterion by which civil society takes stock of leadership. This growing interest has been motivated by the soaring realization among international development experts that, development requires above all, socio-economic security and government quality. Accordingly, recommendations on sound policies, well intentioned incentives and aid efforts may not achieve the desired objectives unless they are offered in an environment that stimulates self-sustaining growth and development. More so, there is also a mounting realization that unsustainable policies are not always the product of deficiency in knowledge on what best policies should be. Instead, these policies could result just as much from decision makers distorting economic policies (poor governance), in an atmosphere where impunity, criminality and conflicts are orders of the day. As far as we have reviewed, the African continent broadly reflects the concerns highlighted above.

African development is substantially being retarded by consistent waves of crimes and conflicts. The institutional environment in Africa over the past decades has been seriously

plagued by violence, crimes and conflicts (The Darfur humanitarian tragedy, Kenyan post election crises in 2007/2008, Zimbabwe's economic meltdown, Nigeria's marred transition in 2008, the Ivorian political crisis, the unending Egyptian revolution and long-standing issue of Somalia as a failed state, recent coups d'états in Mali and Guinea-Bissau, the mounting rebellion in the Central African Republic and inter alia, most recently, the Malian crisis that is currently mobilizing international military resources). One of the reasons advanced for this plethora of conflicts is the absence of good governance, with corruption assuming central stage. In fact, corruption has been conceived as a crime against African development (Furphy, 2010), a position first raised in 2009 by the United Nations Office on Drugs and Crime (UNODC) Southern Africa representative, and confirmed by Transparency International's (TI's) Corruption Perception Index (CPI) of October 2010 that identified Africa as the most corrupt region in the world. This has recently led to a growing strand of studies on African corruption².

To the best of our knowledge, a great chunk of governance oriented studies has been corruption-oriented³. In fact, governance oriented studies have seldom explored all the

² In response to the above issues, there has been a renewed interest in the role of corruption in African development. The perilous character of development assistance (Asongu, 2012a); how existing corruption-control levels (Asongu, 2013a) in the presence of wealth-effects (Asongu, 2013b) matter in the fight against the scourge; its detrimental character on stock market performance dynamics (Asongu, 2012b); the status of corruption-control as the most effective tool in the battle against the burgeoning phenomenon of African software piracy (Asongu & Andrés, 2013); the anatomy, causes and consequences of corruption (Kodila-Tekida, 2013, 2012ab); the nexus between alcohol and corruption (Kodila-Tekida, 2012c), inter alia.

³ There has been a heated debate on the socio-economic consequences, with findings establishing: no effects³, negative effects (Mauro, 1995; Mo 2001; Ugur & Dasgupta, 2011) or positive effects³ on economic growth and investment; slightly weak effect of corruption on economic growth through investment (Mauro, 1997); negative incidence in investment-focused studies (Mauro, 1997; Brunetti et al., 1998; Aysan et al., 2007; Balamoun-Lutz & Ndikumana, 2007; Everhart et al., 2009); perilous impact on foreign direct investment (Wei, 2000a) and bank credit (Wei, 2000b; Wei & Wu, 2001; Ahlin & Pang, 2008) in capital flows studies; negative quality (Tanzi & Davoodi, 1997) and return (Haque & Kneller, 2008; De la Croix & Delavallade, 2007) of public expenditure, especially in military (Gupta et al., 2001) and general (education, health and public) services (Delavallade, 2006) and; the deterioration of government income (Tanzi & Davoodi, 1997; Ghura, 1998; Friedman et al., 2000; Blackburn et al., 2008). Socio-economic effects of corruption have also been documented in the debates, with: pros³ and neutrals (You & Khagram, 2005) on the negative incidences on inequality and poverty and; the disincentive of the scourge to education in terms of years of schooling (Mo, 2001), registration rates (Dreher & Herzfeld, 2005; Mokaddem, 2010) and prospects of furthering education to postgraduate and research levels (Kodila-Tedika, 2012b). Other consequences of corruption assessed in the literature include, inter alia: negative business climate (Dzhumashev, 2009) and corporate productivity (De Rosa et al., 2010); the establishment of underground and shadow economies (Friedman et al., 2000); political instability (Pellegrini & Gerlagh, 2004);

available government quality dynamics provided by the World Bank. The link between crime rates and macro governance has been essentially focused on the relationship between corruption and crime (Lederman et al., 2004) or nexuses among corruption, crime and police (Azfar & Gurgur, 2008; Hunt, 2006). With the above background, this study is a direct response to a twofold international concern that has signaled the need for urgent action and concerted efforts: the growing incidences of organized crime, corruption, terrorism and; the debilitating effects these problems have on peace, security and development in Africa (Moshi, 2007). Hence, the principal line of inquiry of this paper is to investigate why the importance of fighting corruption has been central to governance issues. To this end, this study assesses best governance tools in the fight against crimes and conflicts in Africa. The methodological framework is consistent with the empirical underpinnings of Asongu & Andrés (2013) who have recently investigated governance tools that matter in the fight against African software piracy.

The contribution of this paper to existing literature is fourfold. Firstly, it deviates from the recent substantial bulk of literature that has focused only on corruption in the African institutional literature and integrates previously missing government quality dynamics (rule of law, regulation quality, government effectiveness, political stability, voice & accountability, corruption-control, democracy and autocracy) in the assessment of African wellbeing. Secondly, as far as we have reviewed, with the absence of studies that directly target measures of addressing the prevailing waves of conflicts (crimes), a corollary of the above contribution is the assessment of best governance tools in the fight against African conflicts (crimes). Hence, in the heat of the ongoing debate on African conflicts, we attempt to provide policy makers with the much needed guidance on which governance tools to prioritize in policy decision making processes. Thirdly, the use of recent data presents findings with more

peril to trade (Abe & Wilson, 2008); environmental degradation (Smith et al., 2003; Welsch, 2004; Barbier, 2010) and; the possibility of criminal activities (Azfar & Gurgur, 2004; Azfar, 2005).

updated and focused policy implications. Fourthly, the study unites two strands of the African institutional development literature by analyzing bad governance sources of crimes (conflicts) and, at the same time responding to the effectiveness of policies needed to mitigate conflicts in Africa.

The rest of the paper is organized as follows. Section 2 examines the current climate of and nexuses among crime, conflict and governance in Africa. Section 3 discusses the data and outlines the methodology. Empirical analysis is covered in Section 4. We conclude with Section 5.

2. Crimes, conflicts, governance and development in Africa

There is a twofold international concern that has signaled the need for concerted action: the growing incidences of organized crime, corruption, terrorism and; the debilitating effects these problems have on peace, security and development in Africa (Moshi, 2007). The UNODC study on crime and development in Africa has substantially documented the emergence of organized crime in the continent and its links to conflicts (UNODC, 2005a). It notes that the growth in international commerce and transport has made Africa, with its weak law enforcement capacity, an ideal conduit via which to extract and trans-ship a range of illicit goods. According to a strand of studies, organized criminal networks have succeeded in establishing a common criminal market for illicit commodities that cover the entire southern African sub-region (Gastrow, 2001). There are substantially well documented examples of organized criminal groups corrupting, colluding with and/or penetrating state structures. The manner in which criminal activities of West African crime networks have operated has attracted world attention because their activities have had a global effect (UNODC, 2005b).

Crime undermines development by: eroding Africa's social and human capital; affecting social and political stability; driving-up the cost of business, hence driving investment and business away from the continent and; undermining the ability governments to

promote development. The proceeds of crime breed corruption, which in-turn facilitate the prosperity of criminal networks and debilitate enforcement efforts. According to Goredema (2003), in developing countries (especially Africa), with under-resourced and weak governments, this can lead to consequences which exacerbate distrust in democratic, social and financial institutions. Accordingly, pervasive corruption is perhaps the most damaging element affecting good governance and development (Moshi, 2007). Poverty alleviation programs are frequently undermined by corruption and the inability of existing institutions to monitor the implementation of policies and rules that tackle it. With respect to Moshi (2007), the African poverty trap could therefore embody a range of mutually reinforcing economic and social perils, all of which require targeted interventions if the pace is to be maintained and the vicious cycle broken. However, according to Moshi (2003) in order to achieve this, it is worthwhile to acknowledge and recognize Africa's special needs and constraints. The objective of this paper is to look at how institutional constraints matter in the fight against the highlighted criminal networks and resulting conflicts.

3. Data and Methodology

3.1 Data

We assess a sample of 38 African countries with data from African Development Indicators (ADI) of the World Bank (WB) and the Institute for Economics and Peace (IEP). Due to data availability constraints, the structure is cross-sectional with 2009-2010 averages. Variables definitions and corresponding sources are provided in Appendix 3. The main dependent variable of *crime* proxied by the level of internally organized conflict is obtained from the IEP.

The choice of independent variables is consistent with recent African institutional literature (Asongu & Andrés, 2013) that is based on the IMF (2005) conception and definition of good governance. Accordingly, eight governance indicators are employed, notably: *voice*

and accountability (the degree to which a country's citizens are able to participate in the political decision making process); *political stability and absence of violence* (which measures the stability of a government to political violence and terrorism); *government effectiveness* (that measures the capability of a government to implement effective policies and maintain credibility); *regulatory quality* (that appreciates the ability of the government to formulate and implement sound policies that encourage private sector participation); *rule of law* (that accounts for the existence of a good legal system including property rights and enforcement of contracts); *control of corruption* (which appreciates the degree to which public power is diverted from private gain); *democracy* (which is a form of government in which all eligible citizens have an equal say in the decisions that affect their lives) and; *autocracy* (that refers to a system of government where one person has absolute powers). These governance indicators for the most part range from -2.5 (the weakest institution) to 2.5 (the strongest institution).

Selected control variables include: the number of internal security officers and police per 100 000 people (*police*), age dependency ratio of the young as a % of working-age population (*age*), per capita economic prosperity (*GDP per capita*), primary school enrollment ratio as a % of gross enrollment (*education*) and, population density in terms of people per square km of land area (*population*). From intuition, we expect the first four control variables to mitigate crime while the last should increase it. Expectedly, the *police* is a natural deterrent to crime, increased dependency (*age*) increases the possibility of petty crime but not of internal conflict that can only be effectively organized by adults, per capita economic prosperity (*GDP per capita*) and literacy (*education*) naturally mitigate options of resorting to criminal activities for subsistence, whereas population density (*population*) without a corresponding increase in the number of security (and police) officers could seriously fuel criminal activities. Moreover, from intuition, cities with higher population

densities may create greater returns to crime because criminals may have greater access to the wealthy and face a greater density of victims. Additionally, urban density makes it harder for the police to track criminals, which lead to lower possibilities of recognition and lower probability of arrest.

Details about the descriptive statistics and correlation analysis (showing the basic correlations among variables used in this study) are presented in Appendix 1 and Appendix 2 respectively. The summary statistics of the variables show that, there is quite a degree of variation in the data utilized so that one should be confident that reasonable estimated relationships would emerge. The purpose of the correlation matrix is to mitigate concerns of overparametization and multicollinearity.

3.2 Methodology

Owing to the cross-sectional structure of the dataset, we adopt a heteroscedasticity consistent Ordinary Least Squares (OLS) estimation technique. For further robustness purposes, we employ Ramsey's Regression Equation Specification Error Test (RESET)⁴. The methodological specification typically follows the empirical underpinnings of Asongu & Andrés (2013) who have used the same framework to address the issue of which governance tools matter in the fight against African software piracy.

Two major issues may arise from the choice of this estimation strategy: (1) the concern of different measurement units in the governance variables that could make the comparison of regressions coefficients from different models unfeasible and; (2) the alternative of using 'standardized regression coefficients' in one regression model consisting of all proposed government quality variables. In order to clear misgivings about the two issues, three facts are worth pointing-out. Firstly, the perception based government quality

⁴ Ramsey's RESET is a general specification test for a linear model that tests whether non-linear combinations of the fitted values help explain the response variable. The intuition behind the test is that, if non-linear combinations of the explaining variables have any explanatory power in the response variable, the model is misspecified.

measures do not have different measurement units, as justified by almost similar descriptive statistics properties (see Appendix 1). It is also worth noting that, the main advantage ‘standard coefficients’ proponents present is that, the coefficients take account of the independent variable’s scale of unit which makes comparisons easy. Secondly, due to issues of multicollinearity and overparametization, the government quality measures cannot be regressed in the same model because they are highly correlated (See Appendix 2). Even after standardizing the measures, these issues still persist. Thirdly, from an intuitive standpoint, different regression models with identical specifications are comparable.

4. Empirical Analysis

4.1 Presentation of results

Table 1 below presents the estimation results. While Panel A entails results without Heteroscedasticity and Autocorrelation Consistent (HAC) standard error errors, those of Panel B are HAC standard errors consistent. While autocorrelation may intuitively not be an issue (owing to the cross-sectional data structure), some substantial differences (in magnitude and significance) in estimated coefficients across panels indicate that, the issue of heteroscedasticity represents a significant noise that should be taken into account in the estimations. Hence, interpretation, discussion and resulting policy recommendations will be based essentially on Panel B.

The following findings could be established. (1) All government quality dynamics have the expected signs, meaning they either significantly or insignificantly tackle African crimes and conflicts. (2) While five governance tools are significant in tackling the issues, three governance mechanisms are not. Significant government quality dynamics include, the rule of law, regulation quality, government effectiveness, political stability and corruption-control; while the insignificant mechanisms are, voice & accountability, democracy and autocracy. (3) The relevance of governance tools in the fight against the scourges (in

increasing order) is as follows: regulation quality (-0.566), government effectiveness (-0.674), political stability (-0.853), rule of law (-0.923) and corruption-control (-1.046). (4) Surprisingly, corruption-control substantially outweighs political stability (no violence) as the most effective governance mechanism in the fight against crime and conflicts. (5) The null hypothesis of Ramsey's RESET is overwhelmingly not rejected, implying the model is not misspecified because nonlinear combinations of the explaining variables have no explanatory power on the outcome variable.

Most of the significant control variables have the right signs. 'Growth in GDP per capita', 'age dependency' and 'population density' are negatively correlated with crime. Accordingly, per capita economic prosperity naturally decreases options of resorting to criminal activities as means of subsistence. Increased age dependency substantially shapes parental behavior on the choice of criminal road maps as ways forward (see discussion on control variables in the data section). The sign of population density is contrary to our expectations, as higher population densities intuitively come with greater returns on crime. This unexpected significance (that is valid in only one of the eight models) could be due to, inter alia: policies that increase police density in tandem with population density and; increase information and communication technologies (ICTs) that indirectly regulate crime rate.

Table 1: Impact of governance tools on Crime (Conflict)

Dependent variable: Crime (Conflict)								
Panel A: Analysis without HAC standard errors								
Constant	5.991*** (0.007)	6.868*** (0.006)	7.550*** (0.001)	7.966*** (0.001)	2.887 (0.149)	7.322*** (0.000)	8.779*** (0.000)	8.522*** (0.000)
Rule of Law	-0.923*** (0.002)	---	---	---	---	---	---	---
Regulation Quality	---	-0.566* (0.054)	---	---	---	---	---	---
Government Effectiveness	---	---	-0.674** (0.036)	---	---	---	---	---
Voice & Accountability	---	---	---	-0.404 (0.106)	---	---	---	---
Political Stability	---	---	---	---	-0.853*** (0.000)	---	---	---
Corruption-Control	---	---	---	---	---	0.161 (0.269)	---	---
Democracy	---	---	---	---	---	---	-0.025 (0.601)	---
Autocracy	---	---	---	---	---	---	---	-0.034 (0.552)
Police	0.116 (0.437)	0.055 (0.730)	0.057 (0.722)	0.066 (0.691)	0.045 (0.712)	0.161 (0.306)	0.029 (0.864)	0.016 (0.924)
Age	-0.016 (0.139)	-0.013 (0.290)	-0.020 (0.108)	-0.011 (0.352)	-0.003 (0.704)	-0.023** (0.035)	-0.014 (0.280)	-0.014 (0.270)
GDP per capita	-0.309* (0.080)	-0.348* (0.077)	-0.417** (0.027)	-0.493** (0.011)	-0.104 (0.502)	-0.452*** (0.006)	-0.492** (0.016)	-0.444** (0.031)
Education	-0.005 (0.527)	-0.009 (0.294)	-0.006 (0.444)	-0.008 (0.329)	0.004 (0.549)	-0.004 (0.597)	-0.010 (0.284)	-0.011 (0.217)
Population density	-0.0002 (0.888)	-0.0001 (0.935)	-0.0002 (0.903)	-0.001 (0.500)	-0.001 (0.237)	-0.0001 (0.956)	-0.001 (0.604)	-0.0009 (0.686)
Adjusted R ²	0.364	0.230	0.247	0.202	0.552	0.422	0.139	0.141
Fisher	4.538***	2.851**	3.028**	2.569**	8.613***	5.513***	1.999*	2.017*
Ramsey RESET	0.097 (0.907)	0.143 (0.867)	0.048 (0.953)	0.526 (0.596)	0.341 (0.714)	0.294 (0.747)	0.055 (0.946)	0.067 (0.935)
Panel B: Analysis with HAC standard errors								
Constant	5.991*** (0.002)	6.868*** (0.000)	7.550*** (0.000)	7.966*** (0.000)	2.887* (0.056)	7.322*** (0.000)	8.779*** (0.000)	8.522*** (0.000)
Rule of Law	-0.923*** (0.000)	---	---	---	---	---	---	---
Regulation Quality	---	-0.566** (0.047)	---	---	---	---	---	---
Government Effectiveness	---	---	-0.674** (0.034)	---	---	---	---	---
Voice & Accountability	---	---	---	-0.404 (0.200)	---	---	---	---
Political Stability	---	---	---	---	-0.853*** (0.000)	---	---	---
Corruption-Control	---	---	---	---	---	-1.046*** (0.000)	---	---
Democracy	---	---	---	---	---	---	-0.025 (0.616)	---
Autocracy	---	---	---	---	---	---	---	-0.034 (0.542)
Police	0.116 (0.470)	0.055 (0.746)	0.057 (0.740)	0.066 (0.706)	0.045 (0.736)	0.161 (0.305)	0.029 (0.862)	0.016 (0.924)
Age	-0.016 (0.124)	-0.013 (0.231)	-0.020** (0.048)	-0.011 (0.327)	-0.003 (0.682)	-0.023** (0.024)	-0.014 (0.189)	-0.014 (0.171)
GDP per capita	-0.309* (0.051)	-0.348** (0.020)	-0.41*** (0.005)	-0.49*** (0.001)	-0.104 (0.405)	-0.452*** (0.002)	-0.49*** (0.000)	-0.444*** (0.004)
Education	-0.005 (0.358)	-0.009 (0.149)	-0.006 (0.320)	-0.008 (0.257)	0.004 (0.389)	-0.004 (0.441)	-0.010 (0.221)	-0.011 (0.185)
Population density	-0.0002 (0.833)	-0.0001 (0.907)	-0.0002 (0.845)	-0.001 (0.392)	-0.001* (0.083)	-0.0001 (0.925)	-0.001 (0.498)	-0.0009 (0.577)
R ²	0.364	0.230	0.247	0.202	0.552	0.422	0.139	0.141
Fisher	8.033***	5.788***	5.530***	5.284***	12.182***	11.594***	4.831***	4.908***
Ramsey RESET	0.097 (0.907)	0.143 (0.867)	0.048 (0.953)	0.526 (0.596)	0.341 (0.714)	0.294 (0.747)	0.055 (0.946)	0.067 (0.935)

*, **, ***: significant levels at 10%, 5% and 1% respectively. HAC: Heteroscedasticity and Autocorrelation Consistent. RESET: Regression Equation Specification Error Test.

4.2 Discussion of results

Before we dive into the discussion of the results, it is interesting to underline the intuition motivating this study. The waves of conflicts, violence and crimes in the African continent are seriously limiting sustainable development. A substantial bulk of the development literature in general and African institutional literature in particular has focused on corruption (in terms of anatomy, causes and consequences). While there is some evidence on the relationship between governance and crime, very little is known about how governance tools matter in the fight against African criminal networks and conflicts. We have confirmed from the findings that, corruption-control is the best governance tool in the battle against these phenomena. Hence, it will be interesting to also devote space to explaining the intuition behind this finding; which is consistent with Asongu & Andrés (2013) on the role of corruption-control as the best governance mechanism in the battle against African software piracy.

In comparison to other governance tools, corruption-control has the greatest edge in tackling African criminal networks and conflicts for two main reasons: a ‘conceptual’ explanation and; an ‘end-game’, a ‘final-phase’ or a ‘last resort’ status of corruption-control in the pragmatism of governance. Firstly, from a conceptual perspective, the degree by which a country’s citizens are able to participate in the political decision making process (voice & accountability), the stability of the government to political violence and terrorism (political stability and/or no violence), the capability of a government to implement effective policies to maintain credibility (government effectiveness), the ability of the government to formulate and implement sound policies that encourage private sector participation (regulation quality), the existence of a good legal system including property rights and enforcement of contracts (rule of law), the existence of a form of government in which all eligible citizens have an equal say in decisions that affect their lives (democracy) and, a system of government in

which one person has absolute powers (autocracy); are not as important as the degree to which public power is diverted from private gain (control of corruption) in the fight against criminal networks and conflicts.

Secondly, among the governance tools, corruption-control is the most important for the battle against the scourges of crime (and conflicts) because; it is like the ‘end game’, ‘final-phase’ or ‘last resort’ in the fight against criminal networks. Leaders maybe voted into office by a majority of the population after engaging in vote-buying (quasi-democracy), the voted leaders may formulate rules by the legislature but catching people publicly violating the rules depends of the incorruptible character of security officers (police networks), even enforcements by the courts via sanctions on those caught in criminal activities is also contingent on the incorruptible nature of the judges. Above all, only in the absence of corruption can real leaders be voted, genuine laws passed by the legislature and, law enforcement officers drag caught criminals to courts and, judges inflict appropriate sanctions on those caught to deter the scourges.

As a policy implication, our results broadly indicate that, the waves of conflicts and crime in the African continent could be addressed to a certain extend if the fight against corruption is taken seriously by governments of sampled countries. Such corruption-control efforts will go a long way not only to improving the quality of life and wellbeing of citizens (by protecting their lives and property from criminals), but will also create ideal conditions for sustainable economic growth. Ultimately, the measure will prevent organized criminal groups from corrupting, colluding with and/or penetrating state structures.

Two caveats have been retained from the analysis: the correlation-oriented interpretation of the findings and, issues with the perception-based government quality indicators. Firstly, the results should be treated as correlations not causality owing to the cross-sectional nature of the analysis. Due to constraints in data availability, we have only

been able to use a cross-sectional data structure. Panel data estimation techniques can only be employed in the coming years, when enough degrees of freedom in time series properties entitle us to. Secondly, good governance indicators are perception based measures that may be subject to substantial bias owing to media propaganda. We have not been able to address issues resulting from the state of the data for two main reasons: on the one hand, as far as we have reviewed, there are currently no better good governance indicators than those proposed by the World Bank; on the other hand, finding instruments for an Instrumental Variable estimation approach has been tough and seriously hampered by the data structure⁵.

5. Conclusion

Crimes and conflicts are seriously undermining African development. This article has assessed the best governance tools in the fight against the scourges. The following findings have been established. (1) Democracy, autocracy and voice & accountability have no significant negative correlations with crime. (2) The increasing relevance of government quality in the fight is as follows: regulation quality, government effectiveness, political stability, rule of law and corruption-control. (3) Corruption-control is the most effective mechanism in fighting crime (conflicts). The findings are significantly strong when controlling for age dependency, number of police (and security) officers, per capita economic prosperity, educational level and population density.

As a policy implication, our results broadly indicate that, the waves of conflicts and crimes in the African continent could be addressed to a certain extent if the fight against corruption is taken seriously by governments of sampled countries. Such corruption-control efforts will go a long way not only to improving the quality of life and wellbeing of citizens (by protecting their lives and property from criminals), but will also create ideal conditions for

⁵ Had the data structure been panel, we would have used the first difference and/or lagged levels of the exogenous variables as instruments to tackle the endogeneity issue resulting from reverse causality and measurement errors in the perception-based governance indicators.

sustainable economic growth. Ultimately, the measure will prevent organized criminal groups from corrupting, colluding with and/or penetrating state structures.

Appendices

Appendix 1: Summary Statistics and Presentation of Countries

Panel A: Summary Statistics						
	Variables	Mean	S.D	Min.	Max.	Observations
Dependent Variable	Crime (Conflict)	2.802	1.075	1.000	5.000	38
	Political Stability (No violence)	-0.655	0.983	-3.202	0.907	38
Governance Independent Variables	Corruption-Control	-0.678	0.571	-1.726	0.929	38
	Government Effectiveness	-0.768	0.617	-2.255	0.523	38
	Rule of Law	-0.739	0.638	-2.479	0.652	38
	Regulation Quality	-0.672	0.646	-2.469	0.524	38
	Voice & Accountability	-0.796	0.685	-1.997	0.545	38
	Democracy	2.756	3.851	-8.250	9.000	38
	Autocracy	1.809	3.197	-8.250	9.000	38
Control Variables	Police	2.171	1.041	1.000	5.000	38
	Age	72.219	16.427	33.981	98.925	38
	GDP per capita (log)	2.019	0.157	1.609	2.337	38
	Education	102.91	21.796	33.000	151.69	38
	Population Density	67.299	88.409	2.748	424.31	38

Panel B: Presentation of Countries (38)

Algeria, Angola, Botswana, Burkina Faso, Burundi, Cameroun, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Equatorial Guinea, Ethiopia, Gabon, Ghana, Kenya, Liberia, Malawi, Mali, Mauritania, Morocco, Mozambique, Nigeria, Rwanda, Senegal, Somalia, South Africa, Sudan, Swaziland, The Gambia, Tunisia, Uganda, Zambia, Zimbabwe, Tanzania, Namibia, Libya.

S.D: Standard Deviation. Min: Minimum. Max: Maximum.

Appendix 2: Correlation analysis

Crime	Governance Tools								Control Variables					
	PolSta	CC	Gov.E	RL	RQ	V&A	Demo	Auto	Police	Age	GDPpc	Educ	Pop	
1.000	-0.777	-0.591	-0.411	-0.619	-0.500	-0.289	-0.145	-0.310	-0.077	0.142	0.027	-0.334	-0.080	Crime
	1.000	0.669	0.581	0.764	0.665	0.516	0.374	0.327	0.137	-0.218	-0.130	0.439	-0.025	PolSta
		1.000	0.902	0.908	0.849	0.670	0.445	0.165	0.285	-0.374	0.063	0.391	0.189	CC
			1.000	0.925	0.903	0.629	0.348	-0.050	0.123	-0.396	0.129	0.276	0.193	Gov.E
				1.000	0.927	0.671	0.441	0.205	0.279	-0.367	0.034	0.386	0.115	RL
					1.000	0.723	0.434	0.139	0.200	-0.252	-0.048	0.351	0.170	RQ
						1.000	0.706	-0.262	0.108	0.072	0.105	0.207	-0.009	V&A
							1.000	0.0160	0.027	0.008	0.079	0.367	0.024	Demo
								1.000	0.075	-0.270	-0.141	0.342	0.051	Auto
									1.000	-0.271	-0.269	-0.054	-0.087	Police
										1.000	0.178	-0.171	0.113	Age
											1.000	0.111	0.206	GDPpc
												1.000	0.441	Edu
													1.000	Pop

PolSta: Political Stability. CC: Corruption-Control. Gov. E: Government Effectiveness. RL: Rule of Law. RQ: Regulation Quality. V&A: Voice & Accountability. Demo: Democracy. Auto: Autocracy. GDPpc: GDP per capita. Educ: Education. Pop: Population density.

Appendix 3: Variable Definitions

Variables	Signs	Variable Definitions (Measurement)	Sources
Crime	Crime	Level of Organized Conflict (Internal)	Institute for Economics and Peace (IEP)
Political Stability	PolSta	Political stability/no violence (estimate): measured as the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism.	World Bank (WDI)
Corruption-Control	CC	Control of corruption (estimate): captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as ‘capture’ of the state by elites and private interests.	World Bank (WDI)
Government Effectiveness	Gov. E	Government effectiveness (estimate): measures the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of governments’ commitments to such policies.	World Bank (WDI)
Rule of Law	RL	Rule of law (estimate): captures perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, the courts, as well as the likelihood of crime and violence.	World Bank (WDI)
Regulation Quality	RQ	Regulation quality (estimate): measured as the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	World Bank (WDI)
Voice & Accountability	V&A	Voice and accountability (estimate): measures the extent to which a country’s citizens are able to participate in selecting their government and to enjoy freedom of expression, freedom of association and a free media.	World Bank (WDI)
Democracy	Demo	Institutionalized democracy	World Bank (WDI)
Autocracy	Auto	Institutionalized autocracy	World Bank (WDI)
Police	Police	Number of internal security officers and police per 100 000 people.	Institute for Economics and Peace (IEP)
Age	Age	Age dependency ratio, young (% of working-age population)	World Bank (WDI)
GDP per capita	GDPpc	Logarithm of GDP per capita	World Bank (WDI)
Education	Educ	School enrollment, primary (% of Gross)	World Bank (WDI)
Population	Pop	Population density (people per sq. km of land area)	World Bank (WDI)

WDI: World Bank Development Indicators.

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