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Crime and conflicts in Africa: consequences of corruption?

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Crime and conflicts in Africa: consequences of corruption?

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Abstract

With earthshaking and jaw-breaking levels of corruption in the African continent, the question on the extent to which corruption influences crime still remains unanswered. This paper assesses the effect of corruption (corruption-control) in 38 African countries using updated data. We find that, crime is highly positively (negatively) correlated with corruption (corruption-control). The potential mitigation effect (by corruption-control) is higher than the corresponding positive effect of corruption, implying, corruption-control offsets crime emanating beyond the corruption mechanism (inter alia, other poor governance mechanisms). The relationship is statistically strong when controlling for the number of police officers, age dependency, per capital economic prosperity, level of education, government effectiveness and population density. Given that crime is proxied by the level of organized internal conflict, the findings also sustain the substantial role of corruption in the birth and propagation of conflicts within and across Africa. Policy implications are discussed.

JEL Classification: F52; K42; O17; O55; P16
Keywords: Security; Corruption; Crime; Conflicts; Africa

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1. Introduction

From an ideal standpoint, a government is expected to improve the quality of life and wellbeing of its citizens by protecting the lives and property of the citizens from criminals. Accordingly, a sustainable macroeconomic growth path as a means to the above ends could seriously be stemmed by poor government quality, especially corruption (Mauro, 1995). To this effect, a recent stream of studies has focused on the fundamental issue by examining the nexus between governance and wellbeing (Helliwell and Huang 2008; Ott 2010; Yamamura et al., 2012).

Over the past decades, the issue of crime (conflicts) and the search for strategies to combat its (their) corrosive effects has grown in importance as a topic of public debate and criterion by which civil society evaluates leadership. This increasing focus is motivated by the growing realization among international development experts that, development requires above all, socio-economic security and government quality. Accordingly, counseling 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. There is equally a mounting realization that unsustainable policies do not always emerge from a lack of knowledge about what best policies should be. Instead, these policies could result just as much from decision makers distorting economic policies for their own interests (corruption), in an atmosphere where impunity and criminality are orders of the day. To the best of our knowledge, the African continent broadly reflects the issues highlighted above.

Corruption and crime have substantially infringed on the growth and development opportunities in the African continent. In fact the institutional environment in Africa over the last decade has been plagued by corruption, political strife and a host of investor-unfriendly governance qualms (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). Beside the above crimes/conflicts, corruption could also be 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.

In light of the above, 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.

Consistent with Kodila-Tedika (2012b), a lot has been documented on the consequences of corruption. The debate on socio-economic consequences include: no effects[2], negative effects (Mauro, 1995; Mo 2001; Ugur & Dasgupta, 2011) or positive effects[3] on

[2] See Brunetti et al. (1998) & Li et al. (2000).

[3] Marginal positive effects could prevail in countries with very high institutional deficiency (Houston, 2007; Aidt et al., 2008; Aidt, 2009; Méon and Weill, 2010).

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; Baliamoune-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; Friedman et al., 2000; Ghura, 1998; Blackburn et al., 2008). Socio-economic consequences of corruption have also been the subject of heated debated with: pros[4] 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 investigated 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); 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).

Based on the above, as far as we have reviewed, the present paper has a threefold contribution to the existing African corruption literature. Firstly, it is the first empirical assessment of the role of corruption on crime in Africa. Secondly, the use of recent data presents findings with more updated and focused policy implications. Thirdly, it unites two strands of the African institutional development literature by analyzing a significant source of crime (corruption) and, at the same time responds to the effectiveness of policies needed to mitigate conflicts in Africa (control of corruption). From intuition, corruption could create an appealing atmosphere for crimes and conflicts because of two main reasons: on the one hand, it sustains circumstances of impunity which only further encourage crimes and; on the other hand, the absence of impunity on crime may encourage citizens to take the law into their own hands in attempts to effect jungle justice, which could further lead to conflicts and crime.

The rest of the paper is organized as follows. Section 2 discusses the data and outlines the methodology. Empirical analysis is covered in Section 3. We conclude with Section 4.

2. Data and Methodology

We examine a sample of 38 African countries with data from African Development Indicators (ADI) of the World Bank (WB), the Institute for Economics and Peace (IEP) and TI. Owing to data availability constraints, the structure is cross-sectional with 2009-2010 averages. Variables definitions and corresponding sources are detailed in Appendix 3. While the main dependent variable is *crime*, *corruption* (CPI) and *corruption-control* are the principal independent variables. 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 capital economic prosperity (*GDP per capita*), primary school enrollment ratio as a % of gross enrollment (*education*), government effectiveness (*government*) and population density in terms of people per square km of land area (*population*). Intuitively, we expect the first five control variables to mitigate crime while the last should increase it. Accordingly, the *police* is a natural deterrent to crime, increased

[4] See, inter alia: Gupta et al. (2002), Gymiah-Brempong (2002), Li et al. (2000), Dincer & Gunalp (2008), Gyimah-Brempong et al. (2006) and You & Khagram (2005).

dependency (*age)* increases the possibility of petty crime but not of internal conflict that can only be effectively organized by adults, per capital economic prosperity (*GDP per capita*) and literacy (*education*) naturally decrease options of resorting to criminal activities for subsistence, government effectiveness (*government*) is inherently antagonistic to crime, while population density (*population*) without a corresponding increase in the number of security (and police) officers could seriously fuel criminal activity. Also, 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. Moreover, urban density makes it harder for the police to track criminals, which lead to lower probabilities of recognition and lower probability of arrest. We also control for ethnic polarization and ethic fragmentation in the regressions because of the high degree of ethnic diversity in Africa. Accordingly, we intuitively expect both ethnic measures to positively affect crimes and conflicts.

Details about the summary statistics and correlation analysis (showing the basic correlations between key variables used in this paper) are presented in Appendix 1 and Appendix 2 respectively. The descriptive 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 nexuses would emerge. The object of the correlation matrix is to mitigate concerns of overparametization and multicolinearity.

Given the cross-sectional structure of the dataset, we adopt a heteroscedasticity consistent Ordinary Least Squares (OLS) estimation technique. For further robustness purposes, we: (1) control for the unobserved heterogeneity (fixed effect) of conflict affected countries since they are inherently more prone to crime and violence; (2) use two different measurements of corruption, the CPI from TI and the corruption-control index from the ADI of the WB and; (3) employ the Jackknife repeated replication (JRR)[5].

3. Empirical Analysis

Table 1 below presents the empirical results. Based on the findings, the following conclusions could be drawn. Corruption[6] (corruption-control) is positively (negatively) correlated with crime, and the potential mitigation effect (by corruption-control) is higher than the corresponding effect of corruption (given the same specifications). This broadly implies that, the control of corruption potentially offsets not only crime emanating from corruption but also from other poor governance mechanisms like: inter alia, regulation quality, rule of law and voice & accountability. The positive nexus between corruption and crimes (and/or conflicts) is traceable to two explanations. Firstly, corruption sustains circumstances of impunity which only further encourage crimes. Secondly, the absence of impunity on crime may encourage citizens to take the law into their own hands in attempts to effect jungle justice, which could further lead to conflicts and crime.

[5]JRR is a method used to estimate the sampling variability of a statistics that takes the properties of the sample design into account. It provides unbiased estimates of the sampling error arising from complex sample selection procedures; reflects the components of the sampling error introduced by the use of weighting factors that are dependent on the sample data obtained and; can be readily adapted to the estimation of sampling errors for parameters estimated using statistical modeling procedures. In fact, the general idea behind the Jackknife is to split a single sample into multiple subsamples and use the fluctuation among the subsamples to obtain an estimate of the overall sampling variability.

[6] Note should be taken of the fact that, an increasing CPI means a decrease in the corruption level (See TI's computation of the CPI).

Most of the significant control variables have the right signs. Growth in GDP per capita, literacy and age dependency are negatively correlated with crime. This is logical because, the first two control variables naturally decrease options of resorting to criminal activities for subsistence needs, while increased age dependency could only be the fruit of petty-juvenile crime that does not take the order of organized internal conflict. A corollary to this explanation is the fact that, with increased age dependence, adults may be less poised to engage in the risk of criminal activities for two main reasons: on the one hand, kids inherently make their parents to become responsible citizens principally because the latter want to educate by good examples and; on the other hand, the prospect of abandoning their kids for substantial years in jail or early death as a result of criminal activities may also strongly deter parents.

We regard to the interpretation of the ethnic polarization and ethnic fragmentation indices, Montalvo & Reynal-Querol (2002, 2005ab) have shown that the index of fractionalization can be interpreted as a GINI index with discrete distance. Moreover, they have also shown that the measure of ethnic polarization, RQ, can be interpreted as the index of polarization of ER with discrete distances, by analogy to the relationship between the GINI index and the index of fractionalization. We argue that any index of ethnic heterogeneity that pretends to capture potential conflict should be compatible with a theoretical model. Montalvo & Reynal-Querol (2002, 2005ab) show that the index of fractionalization does not capture the relevant conflictive dimension of ethnic divisions. The simple interpretation of the index of fractionalization as a probability is the basic premise why the index has been widely used. However, in the context of conflict and rent seeking models this measure is not the relevant indicator of the intensity of the conflict, while the use of RQ can be easily justified. Consistent with the seminal contribution of Horowitz (1985) to the study of ethnic conflict, we argue that the relationship between ethnic diversity and civil wars is not monotonic: there is less violence in highly homogeneous and highly heterogeneous societies and more conflicts in societies where a large ethnic minority faces an ethnic majority. If this is indeed the case, in line with our results, an index of polarization would depict the likelihood or the intensity of conflict better than an index of fractionalization.

Table 1: Effect of corruption on crime and conflicts

	Dependent Variable: Crime and conflicts							
Constant	**10.670 *** **	**12.094*** **	**6.608*** **	**8.1005*** **	**10.670*** **	**12.095*** **	**6.608** **	**8.101*** **
	(2.361)	**(2.1738)**	**(2.189)**	**(2.030)**	**(2.665)**	**(2.570)**	**(2.682)**	**(2.544)**
Corruption (CPI)	**-1.053 *** **	**-1.026*** **	---	---	**-1.053*** **	**-1.026*** **	---	---
	(0.632)	**(0.293)**			**(0.295)**	**(0.355)**		
Corruption-Control	---	---	**-2.160*** **	**-2.132*** **	---	---	**-2.160*** **	**-2.132*** **
			(0.489)	**(0.562)**			**(0.585)**	**(0.696)**
Police	0.085	0.036	**0.243***	0.185	0.085	0.0357	0.243	0.185
	(0.549)	(0.820)	**(0.127)**	(0.150)	(0.160)	(0.180)	(0.146)	(0.174)
Age	**-0.023 ** **	**-0.029** **	**-0.020***	**-0.025***	**-0.023 ***	**-0.029***	-0.020	-0.0238
	(0.042)	**(0.014)**	**(0.011)**	**(0.013)**	**(0.012)**	**(0.016)**	(0.013)	(0.016)
GDP per capita	**-0.291 *** **	**-0.324***	**-0.384***	**-0.412** **	-0.291	-0.324	**-0.384***	**-0.412***
	(0.162)	**(0.168)**	**(0.177)**	**(0.171)**	(0.187)	(0.202)	**(0.219)**	**(0.216)**
Education	**-0.015 ** **	**-0.015** **	**-0.014** **	**-0.015** **	**-0.015***	**-0.015***	**-0.014***	**-9.015***
	(0.006)	**(0.007)**	**(0.007)**	**(0.007)**	**(0.008)**	**(0.008)**	**(0.008)**	**(0.008)**
Gov. Effectiveness	0.661	0.592	**1.065***	**1.021***	0.661	0.592	**1.065***	1.021
	(0.466)	(0.496)	**(0.523)**	**(0.590)**	(0.522)	(0.575)	**(0.596)**	(0.691)
Population density	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Ethnic polarization	**1.5446***	---	**1.54***	---	1.545	---	**1.543***	---
	(0.823)		**(0.721)**		(0.931)		**(0.822)**	
Ethnic fragmentation	---	0.294		0.072		0.294	---	0.072
		(0.742)		(0.712)		(0.903)		(0.890)
Jackknife replication	No	No	No	No	Yes	Yes	Yes	Yes
R^2	0.60	0.56	0.65	0.60	0.60	0.56	0.65	0.60
Fisher	**9.47*****	**7.69*****	**12.60*****	**8.07*****	**7.43*****	**4.69*****	**7.30*****	**4.19****
Observations	34	34	34	34	34	34	34	34

Notes: CPI: Corruption Perception Index. All regressions are estimated using White (1980) heteroskedasticity correction. Standard errors in parentheses. *, **, ***: significance levels at 10%, 5% and 1% respectively.

4. Conclusion

With earthshaking and jaw-breaking levels of corruption in the African continent, the question on the extent to which corruption influences crime still remains unanswered. This paper has assessed the effect of corruption (corruption-control) in 38 African countries using updated data. We have found that, crime is highly positively (negatively) correlated with corruption (corruption-control). The potential mitigation effect (by corruption-control) is higher than the corresponding positive effect of corruption, implying, corruption-control offsets crime emanating beyond the corruption mechanism (inter alia, other poor governance mechanisms). The relationship is statistically strong when controlling for the number of police officers, age dependency, per capital economic prosperity, level of education, government effectiveness and population density. Given that crime is proxied by the level of organized internal conflict, the findings also sustain the substantial role of corruption in the birth and propagation of conflicts within and across Africa.

As a policy implication, our findings broadly indicate that, the waves of conflicts and crime in the African continent could be tackled to a certain extend if the fight against corruption is taken seriously by governments of sampled countries. The 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.

Appendices

Appendix 1: Summary Statistics and Presentation of Countries

Panel A: Summary Statistics

	Variables	Mean	S.D	Min.	Max.	Observations
Dependent Variable	Crime	2.955	1.063	1.000	5.000	34
Independent Variables	Corruption (CPI)	2.789	0.940	1.100	5.700	38
	Corruption-Control	-0.678	0.571	-1.726	0.929	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	2.019	0.157	1.609	2.337	38
	Education	102.91	21.796	33.000	151.69	38
	Government Effectiveness	-0.768	0.617	-2.255	0.523	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	CPI	CC	Police	Age	GDPpc	Educ	GovE.	Pop.	
1.000	-0.582	-0.568	-0.0776	0.144	-0.406	-0.334	-0.479	-0.080	Crime
	1.000	0.937	0.198	-0.442	0.355	0.263	0.877	0.087	CPI
		1.000	0.277	-0.360	0.283	0.321	0.899	0.203	CC
			1.000	-0.243	0.351	-0.054	0.186	-0.087	Police
				1.000	-0.595	-0.172	-0.428	0.125	Age
					1.000	0.142	0.390	-0.241	GDPpcg
						1.000	0.449	0.441	Educ
							1.000	0.205	GovE.
								1.000	Pop.

CPI: Corruption Perception Index. CC: Corruption-Control. GDPpc: GDP per capita. Educ: Education. GovE: Government Expenditure. Pop: Population density.

Appendix 3: Variable Definitions

Variables	Signs	Variable Definitions (Measurements)	Sources
Crime	Crime	Level of Organized Conflict (Internal).	Institute for Economics and Peace (IEP)
Corruption	CPI	Corruption Perception Index or perceived levels of corruption (the misuse of public power for private benefit) as determined by expert assessments and opinion surveys.	Transparency International
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)
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)
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)
Population	Pop	Population density (people per sq. km of land area).	World Bank (WDI)
Ethnic polarization and ethnic fragmentation			Montalvo and Reynal-Querol (2002, 2005ab).

WDI: World Bank Development Indicators.

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