AFRICAN GOVERNANCE AND DEVELOPMENT INSTITUTE

A G D I Working Paper

WP/12/015

Fighting corruption with cultural dynamics: when legal-origins, religious-influences and existing corruption-control levels matter

Simplice A. Asongu
African Governance and Development Institute,
P.O. Box 18 SOA/ 1365 Yaoundé, Cameroon.
E-mail: asongusimplice@yahoo.com

 WP/12/015

AGDI Working Paper

Research Department

Fighting corruption with cultural dynamics: when legal-origins, religious-influences and existing corruption-control levels matter

Simplice A. Asongu[1]

February 2012

Abstract

Are there different determinants in the fight against corruption across developing countries? Why are some countries more effective at battling corruption than others? To investigate these concerns we examine the determinants of corruption-control throughout the conditional distribution of the fight against corruption using panel data from 46 African countries for the period 2002-2010. Our findings demonstrate that blanket corruption-control policies are unlikely to succeed equally across countries with different legal-traditions, religious-influences and political wills in the fight against corruption. Thus to be effective, corruption policies should be contingent on the prevailing levels of corruption-control and tailored differently across the best and worst corruption-fighting countries especially with respect to democracy, population growth and economic prosperity.

JEL Classification: C10; H10; K10; O10; O55
Keywords: Corruption; Democracy; Government quality; Quantile regression; Africa

[1] Simplice A. Asongu is Lead economist in the Research Department of the AGDI (asongus@afridev.org).

1. Introduction

Corruption remains one of the most daunting institutional challenges for majority of African countries. As supported by several studies and surveys, it is a major impediment to economic progress, social welfare, service delivery and good governance in the continent. In accordance with the United Nations Economic Commission for Africa(UNECA,2009, p.1), it is estimated that in 2004, the continent lost more than $148 billion to corruption; approximately 25% of its Gross Domestic Product(GDP). More so, the African Development Bank (ADB, 2006, p.7) suggests that 50% of tax revenue and $30 billion in aid for Africa ends up in corrupt pockets. In line with the UNECA (2005), corruption ranked as one of the three most serious national problems confronting African countries, the other two being unemployment and poverty.

Many African countries have enacted laws, adopted policy measures and established institutions in attempts to address the concern. Still corruption continues to be a lingering issue in governance and economic life. Though some consensus is gradually emerging on the determinants of corruption across countries, a number of aspects remain unsolved. Today policies in the fight against the scourge embraced by national governments and international organizations happen to be similar across countries. Yet the effectiveness of some of these measures remain ambiguous (Billger & Goel, 2009). In the present paper we attempt to explain determinants in the fight against corruption. Its contribution to the literature is threefold. (1) By focusing on the distribution of the dependent variable, we examine if corrupt and 'clean' nations respond differently to factors that deter corrupt activity. Contrary to mainstream literature, we are able to provide an assessment of corruption-control contingent on the distribution of corruption-control. (2) The use of much recent data(2002-2010) based on majority(46) of

African countries provides findings with inclusive and updated policy implications. (3) Disaggregation of the dataset into four homogenous panels, reflecting legal-origins(Common-law and Civil-law) and religious-influences(Christianity and Islam) could provide more targeted policy implications. Though studies have focused on legal and cultural determinants of corruption(La Porta et al.,1999), to the best of our knowledge this is the first paper that examines these determinants when existing corruption levels matter. Thus by examining the determinants of corruption-control throughout the conditional distribution with particular emphasis on the best and worst fighters of corruption, policy measures could focus beyond legal-origins and religious-influences if determinants of corruption-control differ across the conditional distribution of the fight against corruption.

2. Data and Methodology

2.1 Data

We assess a panel of 46 countries with updated data(2002-2010) from African Development Indicators(ADI) of the World Bank(WB). To allow for more options in policy implications, the dataset is disaggregated into legal-origins(English common-law and French civil-law) and religious-influences(Christianity and Islam). The endogenous variable is the 'control of corruption' indicator; in line with the corruption literature(Billger & Goel,2009; Okada & Samreth,2012; Asongu,2012). Five control variables are used: level of economic prosperity, population growth, democracy, regulation quality and government effectiveness. These measures have been used collectively or separately in a significant bulk of the corruption literature(Bardhan,1997; Treisman,2000; Billger & Goel,2009).

2.2 Methodology

Borrowing from the literature (Billger & Goel ,2009), to determine whether existing levels of corruption-control affect how various determinants in the battle against corruption come into play, we use Quantile Regression(QR). The θth quantile estimator of the outcome variable is obtained by solving for the following optimization problem.

$$\min_{\beta \in R^k} \left[\sum_{i \in \{i: y_i \geq x_{i'}\beta \}} \theta \left| y_i - x_{i'}\beta \right| + \sum_{i \in \{i: y_i \geq x_{i'}\beta \}} (1-\theta) \left| y_i - x_{i'}\beta \right| \right] \quad (1)$$

Where $\theta \in (0,1)$. Contrary to Ordinary Least Squares(OLS) that is founded on minimizing the sum of squared residuals, with QR we minimize the weighted sum of absolute deviations. The conditional quantile of y_i given x_i is :

$$Q_y(\theta / x_i) = x_{i'}\beta_\theta \quad (2)$$

where unique slope parameters are derived for each θth quantile of interest. For the model in Eq.(2) the dependent variable y_i is the corruption-control indicator while x_i contains a constant parameter, GDP growth, population growth, democracy, regulation quality and government effectiveness. In comparison to OLS, the QR approach is more robust in the presence of outliers when the distribution of the dependent variable is a highly non-normal pattern(Okada & Samreth, 2012). We also report results of Least Absolute Deviations(LAD) which correspond to the 0.5^{th} quantile.

3. Empirical results

3.1 Legal origins: Common-law and Civil-law countries

The findings presented in Table 1 entail OLS, LAD and QR estimates. While Panel A presents results for English common-law countries, findings for their French civil-law counterparts are captured by Panel B. OLS estimates provide a baseline of mean effects and we

compare these to estimates of LAD and separate quantiles in the conditional distributions of the outcome variable.

Table 1: Legal-origin determinants of Corruption-Control(CC)

	Panel A: English Common-Law Countries(17)						
	OLS	**LAD**	**Q 0.1**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**
Specification 1							
Constant	0.029	-0.007	0.069	0.020	-0.007	0.068	**0.323****
	(0.731)	(0.949)	(0.540)	(0.743)	(0.928)	(0.615)	**(0.040)**
Economic Prosperity	-0.003	-0.004	0.012	0.005	-0.004	-0.007	-0.005
	(0.607)	(0.611)	(0.109)	(0.231)	(0.367)	(0.434)	(0.605)
Population growth	**-0.149*****	**-0.134*****	**-0.328*****	**-0.254*****	**-0.134*****	-0.065	-0.050
	(0.000)	**(0.008)**	**(0.000)**	**(0.000)**	**(0.000)**	(0.178)	(0.364)
Democracy	**0.026*****	**0.025****	0.005	**0.019*****	**0.025*****	**0.027****	**0.035****
	(0.002)	**(0.034)**	(0.627)	**(0.002)**	**(0.001)**	**(0.044)**	**(0.025)**
Regulation Quality	**0.613*****	**0.644*****	**0.664*****	**0.649*****	**0.644*****	**0.628*****	**0.731*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	153	153	153	153	153	153	153
Specification 2							
Constant	-0.095	-0.083	**-0.332*****	**-0.325*****	-0.083	**0.178****	**0.321*****
	(0.157)	(0.592)	**(0.000)**	**(0.000)**	(0.257)	**(0.018)**	**(0.006)**
Economic Prosperity	0.003	-0.002	**0.025*****	**0.018*****	-0.002	-0.003	0.004
	(0.491)	(0.822)	**(0.000)**	**(0.000)**	(0.623)	(0.546)	(0.616)
Population growth	-0.011	-0.005	**-0.094*****	**-0.063*****	-0.005	**-0.053***	0.006
	(0.680)	(0.915)	**(0.001)**	**(0.000)**	(0.858)	**(0.074)**	(0.887)
Democracy	0.011	0.006	0.007	**0.017*****	0.006	0.009	0.004
	(0.134)	(0.542)	(0.337)	**(0.000)**	(0.397)	(0.260)	(0.719)
Government Effectiveness	**0.828*****	**0.841*****	**0.796*****	**0.773*****	**0.841*****	**0.797*****	**0.862*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	153	153	153	153	153	153	153

	Panel B: French Civil-Law Countries(29)						
	OLS	**LAD**	**Q 0.1**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**
Specification 1							
Constant	**-0.295*****	-0.061	**-0.144***	-0.040	-0.061	-0.021	**-0.061*****
	(0.000)	(0.376)	**(0.087)**	(0.445)	(0.431)	(0.885)	**(0.379)**
Economic Prosperity	**-0.013*****	-0.007	-0.001	-0.003	**-0.007***	**-0.014***	**-0.028*****
	(0.002)	(0.316)	(0.744)	(0.169)	**(0.066)**	**(0.059)**	**(0.000)**
Population growth	0.054	-0.034	**-0.118*****	**-0.118*****	-0.034	0.026	**0.195*****
	(0.157)	(0.380)	**(0.001)**	**(0.000)**	(0.311)	(0.689)	**(0.000)**
Democracy	0.006	0.004	**0.014****	**0.016*****	0.004	0.008	**-0.024*****
	(0.334)	(0.531)	**(0.029)**	**(0.000)**	(0.441)	(0.464)	**(0.000)**
Regulation Quality	**0.642*****	**0.788*****	**0.838*****	**0.814*****	**0.788*****	**0.701*****	**0.479*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	261	261	261	261	261	261	261
Specification 2							
Constant	**-0.261*****	**-0.187***	**-0.199*****	**-0.239*****	**-0.187*****	**-0.146*****	**-0.152****
	(0.000)	**(0.094)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.001)**	**(0.041)**
Economic Prosperity	**-0.017*****	**-0.014*****	**-0.006****	**-0.010*****	**-0.014*****	**-0.020*****	**-0.020*****
	(0.000)	**(0.000)**	**(0.014)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Population growth	**0.136*****	0.098	**-0.100*****	-0.011	**0.098*****	**0.167*****	**0.235*****
	(0.000)	(0.169)	**(0.000)**	(0.647)	**(0.002)**	**(0.000)**	**(0.000)**
Democracy	-0.002	0.004	0.002	0.002	0.004	**-0.006***	**-0.014****
	(0.638)	(0.464)	(0.502)	(0.629)	(0.434)	**(0.083)**	**(0.013)**
Government Effectiveness	**0.818*****	**0.837*****	**0.659*****	**0.722*****	**0.837*****	**0.837*****	**0.801*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	261	261	261	261	261	261	261

Notes. Dependent variable is the Control of Corruption index. *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where the Control of Corruption is least. OLS: Ordinary Least Squares. LAD: Least Absolute Deviation.

The following findings could be established. (1) While economic prosperity increases corruption-control(hence CC) in countries with English legal tradition(with significance at bottom quantiles), it does the contrary in French civil-law countries(with increasing significance across the distribution). (2) Population growth is a negative tool for CC with decreasing magnitude for English common-law countries. However its corresponding increasing magnitude in French civil countries turn to make population a positive tool in CC at top quantiles. (3) While democracy is a positive tool for CC in English common-law countries with increasing magnitude, French countries experience a negative effect at the top quantiles of their distribution. (4) Government effectiveness and regulation quality increase CC in both legal systems. (5) OLS estimates are significantly different from those of QR across the distributions; confirming the hypothesis that OLS estimates maybe a misleading policy basis, when countries with the same legal traditions have different levels of CC. (6)The LAD findings correspond to the 0.50^{th} quantile results across specifications.

3.2 Religious-influences: Christian and Islamic countries

The findings presented in Table 2 depict religious-influences in the fight against corruption. While Panel A presents results for Christianity dominated countries, findings for their Islam oriented counterparts are captured by Panel B. OLS estimates provide a baseline of mean effects and we compare these to estimates of LAD and separate quantiles in the conditional distributions of the outcome variable. The following findings could be established. (1) Economic prosperity decreases CC in both religious traditions with the magnitude of the negative effect increasing(decreasing) in Christianity(Islam) oriented countries. (2) While population growth is a tool for CC only at the top quantile of the Christian distribution, its effect is unclear in their Islam oriented counterparts, as the sign changes across specifications. (3) While democracy is a

tool for CC from the 0.25^{th} quantile across the distribution(with increasing magnitude) in Christian oriented countries, only bottom quantiles of Islam oriented countries experience the democratization process as a measure of reducing corrupt practices. (4) Government effectiveness and regulation quality increase CC in countries with both religious traditions. (5) OLS estimates are significantly different from those of QR across the distributions; confirming the hypothesis that OLS estimates maybe a misleading policy basis, when countries with the same religious traditions have different levels of CC. (6)The LAD findings correspond to the 0.50^{th} quantile results across specifications.

Table 2: Religious determinants of Corruption-Control(CC)

	Panel A: Christian Dominated Countries(30)						
	OLS	**LAD**	**Q 0.1**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**
Specification 1							
Constant	**-0.158****	-0.046	0.004	-0.025	-0.046	-0.096	-0.155
	(0.048)	(0.474)	(0.960)	(0.592)	(0.440)	(0.124)	(0.459)
Economic Prosperity	**-0.014*****	-0.006	0.000	-0.003	**-0.006***	**-0.017*****	**-0.036*****
	(0.002)	(0.176)	(0.998)	(0.149)	**(0.060)**	**(0.000)**	**(0.003)**
Population growth	-0.048	**-0.115*****	**-0.268*****	**-0.210*****	**-0.115*****	0.016	**0.200****
	(0.111)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	(0.481)	**(0.013)**
Democracy	**0.028*****	**0.027*****	0.012	**0.022*****	**0.027*****	**0.035*****	**0.055*****
	(0.000)	**(0.000)**	(0.121)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.001)**
Regulation Quality	**0.550*****	**0.627*****	**0.654*****	**0.632*****	**0.627*****	**0.596*****	**0.489*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	270	270	270	270	270	270	270
Specification 2							
Constant	**-0.102***	-0.048	**-0.313*****	**-0.127****	-0.048	0.076	**0.327*****
	(0.096)	(0.639)	**(0.000)**	**(0.033)**	(0.412)	(0.452)	**(0.000)**
Economic Prosperity	**-0.012*****	**-0.013*****	-0.001	-0.004	**-0.013*****	**-0.018*****	**-0.026*****
	(0.000)	**(0.003)**	(0.658)	(0.197)	**(0.000)**	**(0.000)**	**(0.000)**
Population growth	**0.049****	0.011	-0.030	**-0.059****	0.011	**0.069***	**0.134*****
	(0.043)	(0.829)	(0.307)	**(0.014)**	(0.631)	**(0.093)**	**(0.000)**
Democracy	0.004	0.003	0.003	0.003	0.003	0.008	-0.007
	(0.363)	(0.477)	(0.626)	(0.495)	(0.482)	(0.345)	(0.227)
Government Effectiveness	**0.823*****	**0.799*****	**0.829*****	**0.787*****	**0.799*****	**0.844*****	**0.944*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	270	270	270	270	270	270	270
	Panel B: Islam Oriented Countries(16)						
	OLS	**LAD**	**Q 0.1**	**Q 0.25**	**Q 0.50**	**Q 0.75**	**Q 0.90**
Specification 1							
Constant	0.076	0.063	-0.067	-0.029	0.063	0.140	**0.386*****
	(0.261)	(0.494)	(0.318)	(0.527)	(0.240)	(0.231)	**(0.000)**
Economic Prosperity	0.0007	-0.009	-0.001	-0.004	**-0.009*****	0.008	**0.006****
	(0.879)	(0.368)	(0.691)	(0.163)	**(0.009)**	(0.281)	**(0.017)**
Population growth	**-0.094*****	**-0.087***	**-0.130*****	**-0.103*****	**-0.087*****	**-0.093***	**-0.085*****
	(0.002)	**(0.057)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.078)**	**(0.000)**
Democracy	0.008	0.003	**0.015****	**0.012****	0.003	0.005	0.002
	(0.260)	(0.679)	**(0.044)**	**(0.021)**	(0.603)	(0.655)	(0.601)
Regulation Quality	**0.821*****	**0.831*****	**0.865*****	**0.851*****	**0.831*****	**0.741*****	**0.821*****
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	144	144	144	144	144	144	144
Specification 2							
Constant	**-0.239*****	**-0.199***	**-0.395*****	**-0.362*****	**-0.199*****	**-0.142*****	-0.121
	(0.000)	**(0.069)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.008)**	(0.281)

Economic Prosperity	-0.005	-0.010	**-0.014*** **	-0.009	**-0.010*** **	0.001	0.003
	(0.191)	(0.155)	**(0.000)**	(0.124)	**(0.000)**	(0.730)	(0.650)
Population growth	**0.101*** **	**0.108** **	**0.081*** **	**0.096** **	**0.108*** **	**0.114*** **	**0.137** **
	(0.000)	**(0.026)**	**(0.001)**	**(0.031)**	**(0.000)**	**(0.000)**	**(0.020)**
Democracy	0.008	0.006	0.002	0.002	0.006	0.005	0.013
	(0.224)	(0.444)	(0.623)	(0.836)	(0.274)	(0.357)	(0.306)
Government Effectiveness	**0.854*** **	**0.906*** **	**0.831*** **	**0.838*** **	**0.906*** **	**0.906*** **	**0.895*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Observations	144	144	144	144	1444	144	144

Notes. Dependent variable is the Control of Corruption index. *,**,***, denote significance levels of 10%, 5% and 1% respectively. Lower quantiles (e.g., Q 0.1) signify nations where the Control of Corruption is least. OLS: Ordinary Least Squares. LAD: Least Absolute Deviation.

4.Conclusion

Our findings demonstrate that blanket corruption control policies are unlikely to succeed equally across countries with different legal-traditions, religious-influences and political wills in the fight against corruption. Thus to be effective, corruption policies should be contingent on the prevailing levels of corruption-control as we have elucidated above. As a policy implication, corruption-control initiatives should be tailored differently across the best and worst corruption-fighting countries especially with respect to democracy, population growth and economic prosperity.

Appendices

Appendix 1: Summary Statistics

	Variables	Mean	S.D	Min.	Max.	Observations
Dependent Variable	Control of Corruption	-0.612	0.561	-1.694	1.086	414
Control Variables	Economic Prosperity	4.602	5.254	-31.30	37.99	414
	Population Growth	2.262	0.815	-0.143	4.477	414
	Democracy	2.903	3.896	-8.000	10.000	414
	Regulation Quality	-0.651	0.617	-2.394	0.905	414
	Government Effectiveness	-0.703	0.603	-1.774	0.807	414

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

Appendix 2: Correlation Analysis

CC	RQ	RL	GE	V& A	PolS	Demo	GDPg	Popg	
1.000	0.753	0.867	0.865	0.628	0.648	0.452	-0.043	-0.292	CC
	1.000	0.857	0.865	0.751	0.624	0.466	0.109	-0.224	RQ
		1.000	0.907	0.700	0.756	0.510	0.063	-0.282	RL
			1.000	0.699	0.644	0.483	0.036	-0.396	GE
				1.000	0.582	0.750	0.050	-0.100	V& A
					1.000	0.492	0.070	-0.194	PolS
						1.000	0.073	-0.094	Demo
							1.000	0.279	GDPg
								1.000	Popg

CC: Control of Corruption. RQ: Regulation Quality. RL: Rule of Law. GE: Government Effectiveness. V& A: Voice & Accountability. PolS: Political Stability. Demo: Democracy. GDPg: GDP Growth. Popg: Population Growth

Reference

African Development Bank(2006). "Combating Corruption in Africa: Issues and Challenges". Concept note paper for the 2006 Annual Meetings, Ouagadougou.

Asongu, S. A., (2012), "On the effect of foreign aid on corruption", *MPRA Paper* No.36545.

Bardhan, P., (1997), "Corruption and development: a review of issues", *Journal of Economic Literature*, 35, pp.1020-1046.

Billger, S. M., & Goel, R. K., (2009),"Do existing corruption levels matter in controlling corruption? Cross-country quantile regression estimates", *Journal of Development Economics*, 90, pp.299-305.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W., (1999), "The quality of government", *Journal of Law, Economics and Organization*, 15, pp.222-279.

Okada, K., & Samreth, S.,(2012), "The effect of foreign aid on corruption: A quantile regression approach", *Economic Letters*, 11, pp.240-243.

Treisman, D., (2000), "The causes of corruption: a cross-national study", *Journal of Public Economics*, 76, pp.399-457.

United Nations Economic Commission for Africa (2005), "Measuring and Monitoring Progress towards good governance", African Governance Report II.

United Nations Economic Commission for Africa(2009), "Governance and the fight against corruption in Africa", Parliamentary documentation for the first meeting of the Committee on Governance and Popular Participation(9-10 December).