Corruption and support for economic reform in sub-Saharan Africa

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Abstract: We explore the relationship between experiences of corruption and support for economic reform in sub-Saharan Africa. We find that the relationship varies across three rounds of the Afrobarometer survey. Examining each round separately, we find that in the first round the local intensity of bribery is correlated with support for reform. In the second round an individual's own experience of bribery matters, while in the third round neither variable is important. Estimating our model on pooled data suggests that an individual's own experience of corruption is associated with less support for reform on average. However, we present evidence that this association is only present in the second round. These findings point to a changing relationship which may reflect rapid development in the region, including economic growth, inward investment, and the diffusion of technology. Our key contribution is to demonstrate that policy recommendations based on an analysis of one round of data or pooled data may be misleading.

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1. Introduction

Corruption is an important variable in the literature on the political economy of economic reform. Previous studies find that it can affect the extent to which citizens support the reform efforts of their governments (Naughton, 1996; Glaeser and Goldin, 2007). Recent work using the Afrobarometer supports this conclusion, suggesting that perceived corruption makes respondents less likely to support economic reform (Bratton et al., 2005; Fors, 2016). Citizens who perceive higher levels of corruption may fear that economic reform efforts by corrupt leaders are merely self-serving. They may assume that regulations are being loosened to enrich a corrupt elite. Furthermore, they may assume that economic reforms are more likely to be self-serving than reforms which specifically target corruption in public life. Finally, citizens may attribute higher levels of corruption to past economic reforms, undermining their support for further reform.

Our study makes three contributions to the literature which has examined the relationship between corruption and support for reform in sub-Saharan Africa. First, we make use of multiple survey rounds, allowing us to test whether the observed relationships between corruption and support for economic reform are stable over-time. This is a useful advantage in any study but it is particularly important in the context of our data. Sub-Saharan Africa experienced rapid growth in per capita income while these data were collected. From 2000-2014, poverty headcount rates fell from 60 to 40 percent and school enrolment increased by 60 percent (IMF, 2018, p. 15). Therefore, our study will help us to understand whether the association between corruption and economic reform that has been observed in the literature is persistent in an era of substantial socio-economic development.

Second, we explore the nature of the relationship by including both one's own experience of corruption and the local incidence. Local or regional experiences of corruption can be important mechanisms by which the quality of local governance affects individuals' relationship with the state (Heinemann and Tanz, 2008). Living in a more corrupt locality may shape attitudes to economic reform, even if one has not been a (recent) victim of corruption. Furthermore, places that are more corrupt tend to have a lower quality of governmental service provisioning in areas such as health (Azfar and Gurgur, 2008) and infrastructure (Gillanders, 2014). Therefore, we include a measure of the intensity of corruption on the regional and district level as an additional explanatory variable.

Third, we use a measure of corruption that is based on experiences as opposed to perceptions. Previous research uses perception-based measures, which are not ideal when the outcome variable is also an opinion (Bratton et al., 2005; Fors, 2016). According to Fordham and Kleinberg (2012), the practice of using one opinion to predict another raises questions about the direction of causation that many studies fail to address, and assume that attitudes predict other attitudes better than objective indicators of economic self-interest.

Our findings cast serious doubt on the existence of a stable relationship. Corruption is associated with decreased support for economic reform in rounds 2 and 3 but not in round 4, and the nature of the relationship varies across rounds. In round 2, the local intensity of bribery matters. In round 3 an individual's own experience of bribery is correlated with support for reform, while in round 4 neither variable is important. Pooling our data and including country, round, and country-round fixed effects, we find that individual experiences

of corruption reduce support for reform on average. However, models with interactions between corruption and survey round support the contention that this is only the case in round 3.

The collection and analysis of household survey data is an important source for evidence-based policymaking (Deaton, 1997). Our results are a reminder that it is necessary to periodically reassess policy relevant findings as relationships in social science are not like laws of nature.

2. Data

The Afrobarometer is a representative cross-sectional survey of public perceptions, social and economic conditions, and political attitudes in sub-Saharan Africa. Round 2 was conducted in 2002-2003, round 3 in 2005-2006, and round 4 in 2008-9 (hereafter R2, R3, and R4). The following countries are common to all rounds: Botswana, Cape Verde, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. Benin and Madagascar were later added to R3 and R4, and Burkina Faso and Liberia were added to R4.

We measure support for economic reform using the following survey question:

> *Which of the following statements is closest to your view? … The costs of reforming the economy are too high; the government should therefore abandon its current economic policies* [or] *In order for the economy to get better in the future, it is necessary for us to accept some hardships now.*

From this question, we create a dummy variable which takes a value of 1 when an individual agrees or strongly agrees that the costs of reforming the economy are too high, the government should therefore abandon its current economic policies, and zero when they agree or strongly agree that accepting hardships now in return for a better future is closer to their view. The question assumes that economic reform is not a cost free exercise, and that alternative economic policies will require unspecified hardships in return for a better economy in the future. Individuals may have different things in mind when asked about "reform", particularly those that have lived through unsuccessful reforms in the past. However, it is worth noting that over the period in question international organisations such as the World Bank and IMF had a reasonably fixed view regarding what constituted market-friendly economic reforms.

Table I shows that support for reform has decreased over the three survey rounds, with 64.6 per cent of respondents agreeing with this statement in R2, 61.9 per cent in R3, and 55.8 per cent in R4. This could be due in part to the countries added to later rounds. In any event, it is necessary to include country fixed effects in our models. As a further robustness test, we limit our sample in some specifications to include only those countries that were included in R2.

To measure corruption experiences, we use a dummy variable which captures an individual's experience of bribery based on the following survey question: In the past year, how often (if ever) have you had to pay a bribe, give a gift, or do a favour to government officials in order to [X]?" This question records whether a citizen paid a bribe to obtain documents and services

from the government, avoid problems with the police, or get a school placement.[1] We also measure the share of people in a respondent's locality who have paid a bribe. To define locality, we use the respondent's region or district.[2]

Table II shows that there is little difference in variable means across the three survey rounds, suggesting that changes in the relationship between these variables are unlikely to be due to differences in the survey. Only R4 shows lower levels for both variables but the differences are not large. In line with previous studies, we control for a range of sociodemographic factors including age, gender, urban or rural status, employment, level of education, and a poverty index.[3]

Table I. Mean of Key Variables by Round[4]

	Round 2	Round 3	Round 4
Reform Support	0.646	0.619	0.558
Individual Bribery Experience Dummy	0.227	0.228	0.212
Local Corruption Incidence (Region)	0.229	0.229	0.212
Local Corruption Incidence (District)		0.229	0.212

3. Results

Table II presents the marginal effects obtained from probit models in which support for reform is the outcome variable. Our R2 estimates (column 1) show that local corruption is associated with a decrease in support for economic reform, while an individual's own experience is statistically insignificant. By contrast, in columns 2-4, individual corruption experiences matter, while locality does not. Our R4 estimates, presented in columns 5-7, show that neither measure of corruption is statistically significant. These findings are unlikely to be driven by differences in the countries that were surveyed, as column 4 and 7 limit the sample to R2 countries. The importance of other controls also vary by round. Education, particularly at higher levels, is associated with support for reform. Experience of poverty is associated with less support (except in R2), and being a woman is associated with a decrease in support in R4.

Table III presents the marginal effects obtained from probit models which pool data for all rounds. Column 1 finds that an individual's experience of corruption is on average associated with significantly lower likelihood of supporting reform. The local incidence of corruption is not associated with support. Column 2 includes round and country-round dummies alongside our country dummies. This is to account for changes related to the macroeconomic environment which may shape individual attitudes to reform.[5] Our conclusions remain the same. Finally, we interrogate our contention that the effect of corruption changes over time by

[1] In round 4, the police question was not asked.
[2] Respondents' home district is not available in R2.
[3] We construct the poverty index by adding the values of the individual responses to the questions: "Over the past year, how often, if ever, have you or anyone in your family gone without: [X]?", where X is represents "food," "water," "medical care," "cooking fuel," and "cash income." The other variables follow the Afrobarometer survey.
[4] Summary statistics on all variables in this analysis, and average values for each country, can be obtained from http://www.afrobarometer.org/.
[5] We are grateful to an anonymous referee for this suggestion.

interacting our corruption variables with indicator variables for each round (with R2 serving as the reference category). Column 3 demonstrates that only in R3 do we see an effect of individual bribery. Contrary to what the sample splits results suggested, the local incidence of bribery is not associated with support for reform in any round.

4. Discussion

Our findings cast doubt on the existence of a stable relationship between corruption and support for reform in sub-Saharan Africa. In the first round, the local intensity of bribery was correlated with reform while in the second round, an individual's own experience of bribery mattered. In the third round, neither variable was statistically significant. When looking across these snapshots in time, different indicators appear to matter in different rounds, and these differences are unlikely to be due to changes in the structure of the Afrobarometer survey or differences in the countries that were surveyed. However, when we pooled the data for all three rounds, we found that individual experiences of corruption were associated with less support for reform on average.

If we take our pooled estimates as the final word on the association between corruption and support for reform, this would give a false impression as to which indicators matter. In fact, we found considerable evidence that the relationship is likely to be unstable across rounds, perhaps reflecting new developments in the region, including rapid economic growth, inward investment, and the diffusion of technology, among other factors. Additional tests using country, round, and country-round fixed effects, and additional models with interactions between corruption and survey round indicators, illustrated that the relationship is unstable. This is a reminder that it is a mistake to treat relationships between variables such as corruption and reform attitudes as unchanging laws of nature. As Edgeworth (1889) noted, such mistakes are 'the source of most of the fallacies in political economy'. Future research should focus on identifying and testing the factors that moderate the relationship between reform and corruption.

This article has highlighted the potential for error and misunderstanding when studying data that comes from only one snapshot in time. Policy makers should treat with caution any recommendations based on an analysis of only one round of data or pooled data. Development scholars and practitioners need to be aware that seemingly robust relationships can change quickly or disappear altogether, depending on new developments in a region.

Table II. Corruption and Support for Economic Reform

Survey Rounds Used	Round 2	Round 3	Round 3	Round 3	Round 4	Round 4	Round 4
Individual Bribery Dummy	-0.005	-0.028***	-0.026***	-0.034***	-0.013	-0.014	-0.016
	(0.014)	(0.011)	(0.010)	(0.011)	(0.012)	(0.010)	(0.015)
Local Corruption Incidence	-0.225**	-0.026	-0.034	0.036	0.034	0.042	0.048
	(0.106)	(0.092)	(0.037)	(0.098)	(0.099)	(0.037)	(0.103)
Female Dummy	0.007	-0.000	0.000	0.001	-0.021***	-0.021***	-0.017***
	(0.008)	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)	(0.007)
Age	-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Did Not Complete Primary	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Primary or Some Secondary	0.009	0.029**	0.029***	0.031**	-0.004	-0.004	0.008
	(0.013)	(0.012)	(0.010)	(0.012)	(0.011)	(0.009)	(0.013)
Secondary	0.036**	0.034*	0.034**	0.040**	0.028*	0.029**	0.037**
	(0.017)	(0.017)	(0.013)	(0.018)	(0.015)	(0.013)	(0.017)
Post-Secondary	0.037**	0.086***	0.086***	0.098***	0.023	0.024	0.042**
	(0.018)	(0.017)	(0.014)	(0.017)	(0.018)	(0.016)	(0.020)
University and Postgraduate	0.066**	0.054*	0.054**	0.064**	0.095***	0.096***	0.109***
	(0.029)	(0.027)	(0.023)	(0.028)	(0.027)	(0.026)	(0.028)
Unemployed Dummy	-0.006	-0.003	-0.003	-0.001	-0.011	-0.009	-0.010
	(0.012)	(0.009)	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)
Poverty Index (0-20 Scale)	-0.002	-0.006***	-0.006***	-0.005**	-0.006***	-0.007***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Urban Dummy	0.024*	0.004	0.005	0.007	-0.001	-0.001	0.009
	(0.013)	(0.011)	(0.010)	(0.012)	(0.012)	(0.011)	(0.012)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Definition of "Local"	Region	Region	District	Region	Region	District	Region
Sample Limited to Round 2 Countries	Yes	No	No	Yes	No	No	Yes
Observed P	0.646	0.618	0.618	0.619	0.557	0.556	0.540
Predicted P	0.654	0.621	0.621	0.622	0.559	0.559	0.542
Observations	19792	21880	21880	19784	24432	23378	20092

Notes: Probit marginal effects reported. The corresponding standard errors are clustered at the local level and reported in parentheses.
*, ** and *** indicate significance at the 10 per cent, 5 per cent and 1 per cent levels respectively.

Table III. Corruption and Support for Economic Reform

Survey Rounds Used	Rounds 2, 3 and 4	Rounds 2, 3 and 4	Rounds 2, 3 and 4	Rounds 2, 3 and 4
Individual Bribery Experience Dummy	-0.015**	-0.02**	-0.00	-0.02**
	(0.008)	(0.008)	(0.016)	(0.008)
Local Corruption Incidence	-0.091	-0.07	-0.08	-0.06
	(0.066)	(0.057)	(0.062)	(0.111)
Round3*Individual Experience			-0.04*	
			(0.021)	
Round4*Individual Experience			0.00	
			(0.022)	
Round3*Local Incidence				-0.12
				(0.119)
Round4*Local Incidence				0.08
				(0.128)
Country Dummies	Yes	Yes	Yes	Yes
Round Dummies	No	Yes	Yes	Yes
Country-Round Dummies	No	Yes	Yes	Yes
Observed P	0.604	0.604	0.604	0.604
Predicted P	0.606	0.609	0.607	0.607
Observations	66327	66327	66,327	66,327

Notes: Additional control variables not displayed. Probit marginal effects reported. The corresponding standard errors are clustered at the local level and reported in parentheses. *, ** and *** indicate significance at the 10 per cent, 5 per cent and 1 per cent levels respectively.

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