

DOCUMENT DE TRAVAIL

DT/2008-07

Corruption and trust in political institutions in sub-Saharan Africa

Emmanuelle LAVALLEE
Mireille RAZAFINDRAKOTO
François ROUBAUD

DIAL • 4, rue d'Enghien • 75010 Paris • Téléphone (33) 01 53 24 14 50 • Fax (33) 01 53 24 14 51
E-mail : dial@dial.prd.fr • Site : www.dial.prd.fr

CORRUPTION AND TRUST IN POLITICAL INSTITUTIONS IN SUB-SAHARAN AFRICA

Emmanuelle Lavallée
DIAL, Paris
lavallee@dial.prd.fr

Mireille RAZAFINDRAKOTO
IRD-DIAL, Paris
razafindrakoto@dial.prd.fr

François Roubaud
IRD-DIAL, Paris
roubaud@dial.prd.fr

Document de travail DIAL
Septembre 2008

ABSTRACT

This paper analyzes the impact of corruption on the extent of trust in political institutions using a rich collection of comparable data provided by the *Afrobarometer* surveys conducted in 18 sub-Saharan African countries. More specifically, we set out to test the “efficient grease” hypothesis that corruption can strengthen citizens’ trust since bribe paying and clientelism open the door to otherwise scarce and inaccessible services and subsidies, and that this increases institutional trust. Our findings reject this theoretical argument. We show that corruption never produces trust-enhancing effects regardless of the evaluation of public service quality. The results reveal how perceived and experienced corruption impact negatively, but differently, on citizens’ trust in political institutions. The adverse effect of perceived corruption decreases with the fall in public service quality, whereas the negative effect of experienced corruption decreases as public service quality increases.

Keywords: Corruption, Institutions.

RESUME

Cet article explore les interactions entre la confiance institutionnelle et la corruption à partir d’un riche corpus d’enquêtes-ménages comparables : les enquêtes *Afrobaromètre* réalisées dans 18 pays d’Afrique sub-saharienne. Plus précisément, il teste les théories de l’ « huile dans les rouages » selon lesquelles la corruption peut renforcer la confiance des citoyens en leur permettant d’accéder à des services publics autrement inaccessibles. Nos résultats infirment clairement ces théories. Nous montrons que la corruption réduit clairement la confiance et ce quelque soit la qualité des services gouvernementaux. Ils suggèrent toutefois que l’expérience et la perception de la corruption ont des effets distincts sur la confiance institutionnelle.

Mots clés : Corruption, Institutions.

JEL Code: D73, P48

Contents

1 INTRODUCTION..... 4

2 “EFFICIENT GREASE” THEORY AND ITS CRITICS..... 5

3 DATA AND DESCRIPTIVE STATISTICS 6

3.1 Presentation of the data sets..... 6

3.2 Trust in political institutions, perception and experience of corruption, and public service delivery: some descriptive statistics 6

4 EMPIRICAL STRATEGY AND RESULTS..... 12

4.1 Construction of the variables 12

4.2 Results 13

5 CONCLUDING REMARKS..... 19

REFERENCES BIBLIOGRAPHIQUE 20

List of Tables

Table 1: Percentage of the population who express little or no trust in the following political institutions (Round 3 only)..... 8

Table 2: Percentage of the population who believe that most of or all of the following people are involved in corruption..... 10

Table 3: Percentage of the population who live in areas without the following services or amenities 12

Table 4: Impact of corruption on the level of trust in political institutions 15

Table 5: Impact of corruption on the level of trust in political institutions 17

List of Figures

Figure 1: Percentage of the population who express no trust in political institutions..... 7

Figure 2: Percentage of the population who have had to pay bribe at least once in the past year..... 9

Figure 3: Percentage of the population who find it hard to get services 11

Figure 4: Marginal effect of perceived corruption on institutional trust as public service quality increases..... 18

Figure 5: Marginal effect of experienced corruption on institutional trust as public service quality increases..... 18

1 INTRODUCTION

Corruption, defined as the abuse of public office for private gain, is widely seen today as a threat to democratic regimes. This view of corruption is one of the core motives underlying the United Nations Convention against Corruption. The first line of its preamble states that corruption is a threat “to the stability and security of societies, undermining the institutions and values of democracy, ethical values and justice and jeopardizing sustainable development and the rule of law.” The African Union Convention on Preventing and Combating Corruption also recognises the devastating effects of corruption on “the political, economic, social and cultural stability of African States.” Numerous World Development reports stress that corruption undermines state legitimacy. The 1997 report states that, “Unchecked, the creeping accumulation of seemingly minor infractions can slowly erode political legitimacy to the point where even non-corrupt officials and members of the public see little point in playing by the rules” (World Bank, 1997, p. 102). The 2002 report says, “Good governance also means the absence of corruption, which can subvert the goals of policy and undermine the legitimacy of the public institutions that support markets” (World Bank, 2002, p. 99).

An increasing number of empirical studies show the negative impact of corruption on trust in political institutions. Della Porta (2000) finds that corruption greatly reduces trust in governments in Italy, France and Germany. Anderson and Tverdova (2003) conclude that citizens living in the most corrupt countries of Eastern and Western Europe exhibit less trust in their political systems. A number of studies of the situation in Latin America (Seligson, 2002), East Asia (Chang and Chu, 2006) and Africa (Cho and Kirwin, 2007) come to the same conclusion.

Such conclusions contrast sharply with an earlier body of political science and economic literature on corruption. “Efficient grease” and “second-best” theories long prevailed in the political science and economic analysis of corruption. They argue that bribery is an efficient way to reduce effective red tape in an environment of heavy bureaucratic burden and long delays, and therefore that corruption can boost economic and political development (Leff, 1964; Huntington, S. 1968). For instance in political science, corruption is presented as facilitating the development of political parties and the emergence of a stable political environment. Corruption could also increase citizens’ loyalty to and trust in their political institutions (Bayley, 1967; Becquart-Leclercq, 1989).

Strictly speaking, the new body of literature on the nexus between corruption and trust does not reject the “grease the wheels” hypothesis and can even agree with it. To be more precise, the mere observation that corruption generally undermines trust in political institutions does not prevent the correlation from being positive for individuals faced with red tape or ill-functioning public services. To the best of our knowledge, attempts to specifically test the “grease the wheels” hypothesis remain scarce in political science. In economics, the testing of these theories has prompted intense debate. Méon and Sekkat (2005) address the hypothesis from a macroeconomic standpoint. They observe that corruption is detrimental to investment and growth everywhere, and especially so in countries with some other institutional deficiency. This invalidates the “grease the wheels” hypothesis, but could correspond to a “sand the wheels” effect of corruption. Using various measures of corruption and other aspects of governance, Méon and Weill (2006) repeatedly observe that corruption is always detrimental in countries where institutions are effective, but that it may be positively associated with efficiency in countries where institutions are ineffective. In the area of international trade, Lavallée (2006b) rejects the second-best theories that see corruption as a way “to grease the wheels of trade” whereas Dutt and Traca (2007) show that, while corruption impedes trade in an environment of low tariffs, it can create trade-enhancing effects when nominal tariffs are high.

This paper sets out to empirically test the “efficient grease” theory using a rich collection of comparable household surveys conducted in 18 sub-Saharan African countries (*Afrobarometer Survey*). The paper is structured as follows. Section 2 briefly describes the “grease the wheels” and “sand the wheels” hypotheses. Section 3 presents our data and some descriptive statistics on corruption, trust in political institutions and public service delivery in sub-Saharan Africa. We lay out our empirical results in section 4 and our concluding comments are contained in section 5.

2 “EFFICIENT GREASE” THEORY AND ITS CRITICS

Efficient grease theory long prevailed in political science. For many years, corruption was largely viewed as the “grease” that gets bureaucracy moving and, in so doing, increases the loyalty of the citizens (Merton, 1957; Abueva Veloso, 1966; Bayley, 1967; Nye, 1967). Corruption was seen as binding the society together. In a study on France, Becquart-Leclercq (1989) stated that corruption works like grease in the gears; it has substantial redistributive effects and is a functional substitute for direct participation in power.

The main premise of “efficient grease” theory is that corruption can strengthen citizen trust since bribe paying and clientelism open the door to otherwise scarce and inaccessible services and subsidies, and that this increases institutional trust. Corruption is seen as an informal institution that helps the functioning of formal institutions. In other words, the theory suggests that a citizen faced with ill-functioning institutions will place greater trust in the political institutions if he knows (based on perception or experience) that corruption is a way to get what he wants.

In the case of Honduras, Taylor-Robinson (2006) explains how a particular form of corruption, clientelism, has some positive effects on political representation. She argues that electoral incentives for legislators to represent local interests are weak due to Honduras’ closed-list proportional representation system. She finds that elected representatives from poor rural areas who sponsor pork barrel legislation do so mainly in response to established norms of clientelism. Without these norms, the legislative process might ignore poor rural districts entirely.

Since 1990, “efficient grease” theory has been increasingly challenged by both the theoretical and empirical literature. Critics focus mainly on the origins of political trust and the hypothesis behind “efficient grease” theory.

Institutional theories suggest that political trust is a consequence, not a cause, of institutional performance. Trust in institutions is rationally based; it hinges on citizen evaluations of institutional performance. Institutions that perform well generate trust; untrustworthy institutions generate scepticism and distrust (Mishler and Rose, 2002). Therefore corruption, seen as a symptom of ill-functioning institutions, can affect institutional trust either directly, via the citizen’s experience or perception of corruption, or indirectly, via its adverse effects on economic growth (Mauro, 1995; Méon and Sekkat, 2005) and development outcomes (Kaufmann, Kraay and Zoido Lobaton, 1999).

Empirical studies of different world regions confirm the negative impact of corruption on institutional trust. Della Porta (2000) demonstrates a strong relationship in Western European countries between a high level of corruption and low satisfaction with democracy. Anderson and Tverdova (2003) study 16 democracies in Eastern and Western Europe and conclude that citizens in highly corrupt countries value and trust their political systems less. Seligson (2002) present similar findings based on household surveys in four Latin American democracies (El Salvador, Nicaragua, Paraguay and Bolivia). Lastly, Chang and Chu (2006) find the same negative relationship in four East Asian countries (Japan, South Korea, Thailand and Taiwan) and hence reject the Asian corruption exceptionalism hypothesis.

Moreover, the central assumption of efficient grease theory that corruption can speed up an otherwise sluggish bureaucracy can be overturned. Myrdal (1968) argues that corrupt civil servants can cause delays that would not otherwise occur just to give themselves an opportunity to extract a bribe. Kaufman and Wei (1999) demonstrate that corruption is an endogenous element of the regulatory burden set-up. Drawing on a survey of firms, they show a positive and significant correlation between effective red tape and the value of the bribe paid by firms. Using household surveys, Hunt and Lazlo (2006) and Lavallée, Razafindrakoto and Roubaud (2006) report similar findings respectively for Peru and sub-Saharan African countries.

Lastly, corruption is seen as an informal institution that helps the functioning of public services, especially as a mechanism for the allocation of scarce public services. Yet such a mechanism can erode a citizen’s institutional trust. It may well be perceived as unfair or altering the rules or norms that govern how individuals act in society (Bratton, 2007). As informal institutions replace formal

rules, citizens realize that respecting the formal rules is inefficient. Cho and Kirwin (2007) find a vicious circular relationship between mistrust in the state and experiences with corruption. Their results suggest that citizens' experience of corruption lowers their trust in political institutions and that lower levels of trust are likely to increase the experience of corruption.

Recent studies addressing the link between trust and corruption conclude that corruption alters trust in political institutions. To the best of our knowledge, none of them tests the central hypothesis of "efficient grease" theory whereby corruption can offset the adverse effects on trust of ill-functioning bureaucracies and public services.

3 DATA AND DESCRIPTIVE STATISTICS

3.1 Presentation of the data sets

The paper's empirical basis is found in the *Afrobarometer* surveys. *Afrobarometer* is an independent, non-partisan research project that measures the social and political atmosphere in Africa. The *Afrobarometer* surveys are conducted in more than a dozen African countries and are repeated on a regular basis. This study uses Round 2 and Round 3. The Round 2 surveys were conducted from May 2002 to October 2003 in 15 countries: six southern African countries (Botswana, Lesotho, Malawi, Namibia, South Africa and Zambia), four eastern African countries (Uganda, Tanzania, Mozambique, and Kenya) and five western African countries (Senegal, Mali, Cape Verde, Ghana and Nigeria). The Round 3 surveys were conducted from March 2005 to February 2006 in the same countries as in 2002, but the coverage was extended to three new countries (Benin, Madagascar and Zimbabwe).

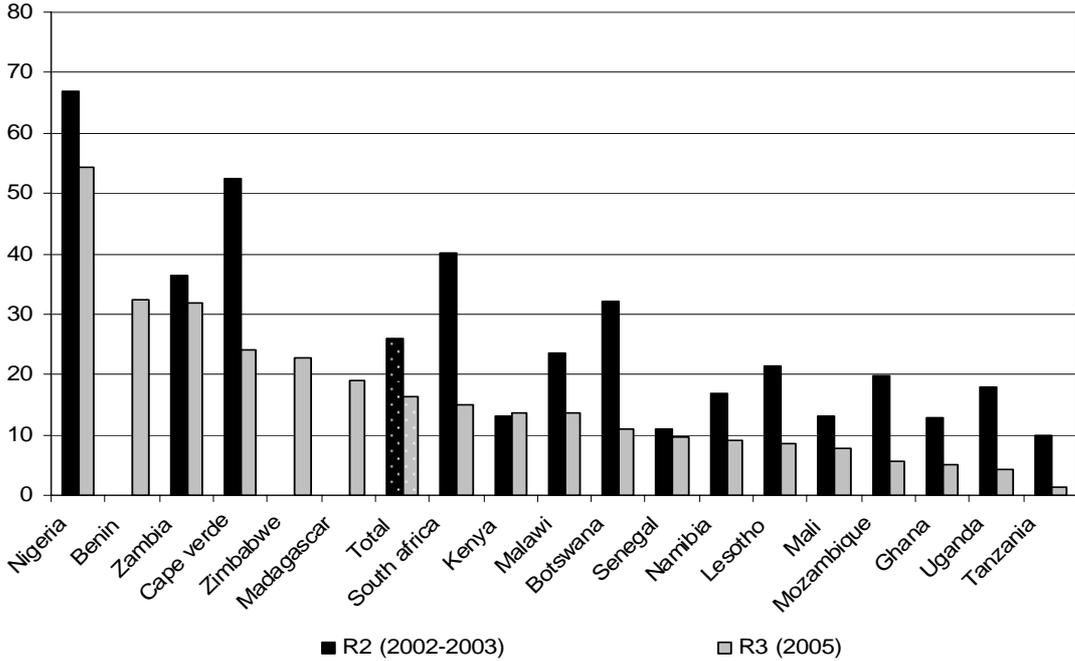
These data sets are particularly interesting for four main reasons. Firstly, to the best of our knowledge, the corruption and trust nexus has not really been explored in full empirical fashion in these countries despite the fact that corruption is widespread in this area of the world¹. Secondly, these countries are young democracies, so an analysis of corruption's repercussions on the consolidation of these regimes consolidation is particularly relevant since institutional trust and state legitimacy are key elements to political stability (Mishler and Rose, 2001; O'Donnell, 1999). Thirdly, the survey includes questions about both experiences and perceptions of corruption. So we can analyse the effects of these two aspects on institutional trust. Lastly, the survey also contains information about the citizens' perceptions of the quality of public services. This means that we can explore the impact of corruption on institutional trust by extent of red tape and then rigorously test the "efficient grease" theory.

3.2 Trust in political institutions, perception and experience of corruption, and public service delivery: some descriptive statistics

In a first step, we want to know whether ordinary people express trust in their country's political institutions. In the *Afrobarometer* surveys, citizens were asked, "How much do you trust each of the following institutions, or haven't you heard enough about them to say?" We only consider here the answers given for the political institutions (i.e. the president, parliament, the independent electoral commission, the ruling party and the opposition parties).

¹ The *Afrobarometer* surveys cover an area of the world where corruption is widespread. None of the abovementioned countries appear among the world's 20 least corrupt countries as ranked by the Corruption Perception Index produced by Transparency International in 2006. The highest ranking is Botswana, in 37th place out of 158 countries. About half of the countries studied come in somewhere between 70th and 105th place. On the basis of the Transparency International rating, the most corrupt countries in our sample are Zambia, Benin, Kenya and Nigeria.

Figure 1: Percentage of the population who express no trust in political institutions



Sources : Afrobarometer surveys. Authors' calculations.

Figure 1 shows that the people exhibit a low level of trust in their political institutions. The Round 2 surveys reveal that a quarter of the population does not trust any political institution (i.e. they trust neither the president, nor parliament, the independent electoral commission, the ruling party, nor the opposition parties). Three years later, this proportion had fallen to 16% of the population. This positive development is observed in every country. But there are still major cross-national variations. Nigeria shows the least trust in political institutions with, in Round 2, 67% and, in Round 3, 54% of the population trusting none of the political institutions. In the other countries, the situation is admittedly less alarming. Yet even in Round 3, almost one-third of the population in Benin and Zambia trusts none of the political institutions. This percentage ranges from 20% to 25% in Cape Verde, Zimbabwe and Madagascar. Conversely, in Mozambique, Ghana, Uganda and Tanzania, less than 6% of the population have this negative opinion of political institutions.

The least trustworthy institutions appear to be the opposition political parties. More than 60% of the population expressed little or no trust in this institution compared with 40% for the ruling party and parliament and only 33% for the president. This relative ranking of the institutions is pretty much the same for all the countries studied. Except in Nigeria, Zambia and Zimbabwe where a high level of distrust applies for all the institutions, the highest rates of distrust are generally observed for the opposition parties (the rates are extremely high in some countries, such as in Madagascar where more than 80% of the population said they had little or no confidence in the opposition political parties).

Table 1: Percentage of the population who express little or no trust in the following political institutions (Round 3 only)

	President	Parliament/National assembly	Electoral Commission	Ruling party	Opposition political parties
Benin	42.3	54.8	55.2	58.0	67.4
Botswana	30.8	32.9	39.4	39.8	53.3
Cape Verde	44.6	42.5	46.5	49.8	46.3
Ghana	22.0	27.1	21.6	29.1	44.4
Kenya	39.7	53.5	40.2	50.4	71.5
Lesotho	19.2	36.3	25.6	25.0	77.7
Madagascar	31.1	45.4	44.7	44.1	82.9
Malawi	35.7	46.3	45.6	39.6	55.8
Mali	17.0	23.0	35.7	28.1	47.3
Mozambique	14.7	16.3	18.8	18.6	61.4
Namibia	18.6	27.6	38.1	34.0	64.3
Nigeria	75.3	78.3	79.5	78.4	76.1
Senegal	21.8	33.2	28.9	34.0	45.8
South Africa	29.1	38.5	36.1	36.7	67.6
Tanzania	4.6	9.0	8.5	9.1	63.4
Uganda	23.5	29.3	34.4	28.9	61.5
Zambia	59.7	58.2	63.1	67.0	63.8
Zimbabwe	68.1	63.9	69.3	68.2	51.8
Total	33.4	39.9	41.0	41.2	61.2

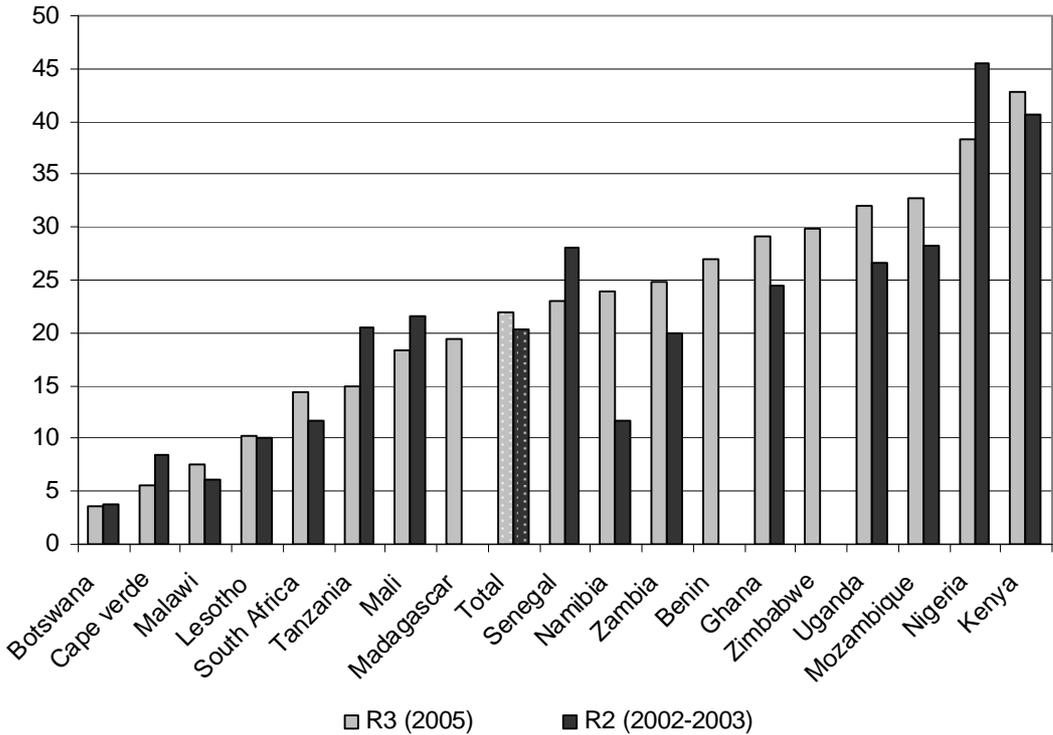
Sources : Afrobarometer surveys. Authors' calculations.

In a second step, we want to assess the extent of corruption in the sub-Saharan African countries. The *Afrobarometer* surveys provide information on both experiences of petty corruption and perception of corruption. These two aspects could have distinct effects on institutional trust, giving us a fuller understanding of corruption mechanisms.

On the question of experiences of corruption, the respondents were asked whether, in the past year, they actually “had to pay a bribe, give a gift, or do a favour to a government official in order to: (a) get a document or permit (b) get a child into school (c) get household services (d) avoid a problem with police?” On average, approximately 20% of the population said they had to pay a bribe at least once in the past year, which is quite a high proportion. The average rate of 20% means that, if the process were evenly distributed, the entire population would be affected by corruption in just five years.

Furthermore, this rate is much higher than on other continents. For example, in Peru and Ecuador, where the extent of corruption has been measured in a similar way, corruption is found to be in a bracket of 2% to 6% at national level (Herrera and Roubaud, 2006). Obviously, these rates are much lower in the developed countries. The findings of the *Global Corruption Barometer* survey conducted for Transparency International (2005) in 67 countries in 2005 shows that an average 24% of the population had personally experienced corruption in eight African countries in the sample compared with only 2% in the developed countries (Razafindrakoto and Roubaud, 2006). This average hides large cross-country variations. In countries like Nigeria and Uganda, the Round 2 data finds that more than 40% of the population had to pay a bribe at least once. At the other end of the scale, the incidence of corruption is very low in Botswana where less than 5% of the population in both the Round 3 and Round 2 survey said they had to pay a bribe in the past year.

Figure 2: Percentage of the population who have had to pay bribe at least once in the past year



Sources : Afrobarometer surveys. Authors' calculations.

As regards perception of the prevalence of the phenomenon, respondents were asked, “How many of the following people do you think are involved in corruption: (a) office of the presidency, (b) members of parliament, (c) national government officials, (d) police, (e) tax officials, (f) judges and magistrates, (g) teachers and school administrators?” This question seeks to find out the popular reputation of these service providers independently of whether an individual respondent has ever been directly approached for a bribe. Across all survey rounds, the most discredited institutions are the police and tax officials. Approximately one half of the population considers that “most” or “all” policemen and tax officials are corrupt. This proportion is over 60% in Benin, Uganda and Nigeria. The public servants perceived as the least corrupt are the teachers and school administrators. Approximately 20% of the population thinks that “most” or “all of them” are involved in corruption. It is worth noting that from 30% to 38% of the population consider that the political institutions are corrupt, singling out national government officials in particular.

Table 2: Percentage of the population who believe that most of or all of the following people are involved in corruption

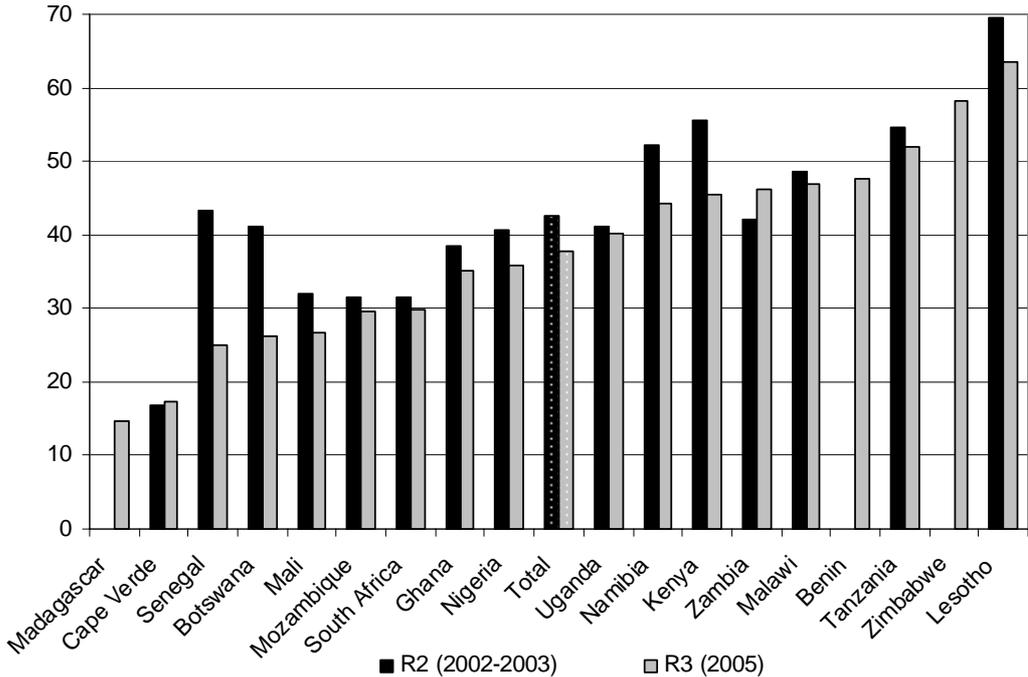
	Office of the presidency		Members of parliament		National government officials		Police		Tax officials		Judges and magistrates		Teachers and school administrators	
	R3	R2	R3	R2	R3	R2	R3	R2	R3	R2	R3	R2	R3	R2
Benin	56		57		64		69		85		71		22	
Botswana	19	26	24	30	33	33	33	31	25	34	17	21	14	17
Cape Verde	24	14	23	15	16	11	19	14	18	25	13	11	14	8
Ghana	22	11	21	17	33	29	59	60	42	58	43	43	17	16
Kenya	33	9	46	17	40	32	69	62	46	47	34	32	9	14
Lesotho	9	17	15	22	27	34	40	33	25	39	15	21	9	15
Madagascar	15		19		16		37		27		31		6	
Malawi	28	44	31	44	36	56	38	56	33	65	28	45	20	31
Mali	31	44	38	45	42	52	57	61	65	74	62	63	21	26
Mozambique	14	21	14	26	25	30	37	42	28	48	22	27	33	34
Namibia	25	17	31	24	38	32	46	38	42	31	38	25	36	26
Nigeria	57	52	62	56	61	58	76	72	60	63	43	47	38	30
Senegal	28	20	31	27	33	36	39	48	43	56	33	40	17	13
South Africa	24	15	31	25	39	30	50	40	29	38	25	18	22	18
Tanzania	9	17	14	25	16	31	42	51	30	48	34	35	9	9
Uganda	33	35	31	31	42	52	70	70	66	59	40	43	14	14
Zambia	36	22	42	26	42	32	72	52	59	46	33	33	22	23
Zimbabwe	46		42		51		63		52		28		13	
Total	30	25	33	29	38	38	53	50	45	50	35	35	19	20

Sources : Afrobarometer surveys. Authors' calculations.

In a third step, we want to evaluate the quality of public service delivery in the countries studied. The *Afrobarometer* surveys cover service accessibility, proximity and availability. Service accessibility assesses the “user-friendliness” of the services. In other words, it gives the customer’s point of view of how hard it is to gain access to public services. The relevant survey question is: “In your experience, how easy or difficult is it to obtain the following services: a place in a primary school for a child?; household services?; identity documents?; help from the police?”

Figure 3 suggests that access to public services is considered to be difficult by a large number of citizens. On average, in 2002 and 2005, approximately 40% of the population found it “difficult” or “very difficult” to obtain these services. Our indicator records a slight improvement in service accessibility over the period. In some countries like Senegal, Botswana, Namibia and Kenya, access to public services seems to have improved significantly. In Senegal, 43% of the population said it was hard to obtain at least one of the services mentioned in 2002, whereas, only 25% expressed this judgement in 2005. Nevertheless, in half of the countries studied in 2002, more than 40% of the population said it was hard to access at least one of the services considered.

Figure 3: Percentage of the population who find it hard to get services



Sources : Afrobarometer surveys. Authors' calculations.

Note: the figure shows the percentage of the population who consider that at least one of the following services (an identity document, a household service, help from the police, a place in primary school) is difficult or very difficult to obtain.

As regards the proximity of service facilities in the towns and villages where people live, *Afrobarometer* measures service infrastructure in a distinctive way. In addition to the interviews of randomly selected individuals, the surveys include contextual observations by interviewers and supervisors for each primary sampling unit. Among other things, the field teams record the presence or absence of post offices, police stations, electricity grids, etc. (Bratton, 2007).

Table 3 reports on the percentages of adults living in a locality without these services in each of the 18 African countries in 2005 and 2002. These observations reveal that school is the most present infrastructure followed by health clinics and piped water systems. In 2005, only 23% of the population lived in localities without a school compared with 49% for piped water systems and 56% for health clinics. Countries like Senegal, Benin, South Africa and Uganda have a more physically accessible service infrastructure than countries like Namibia, Botswana, Zimbabwe and Lesotho. For instance, in Lesotho, 55% of the population lives in an area without a primary school and 84% in areas where there are no health clinics.

Table 3: Percentage of the population who live in areas without the following services or amenities

	School		Police station		Piped water system		Health clinic	
	R3	R2	R3	R2	R3	R2	R3	R2
Benin	7		74		57		38	
Botswana	46	38	88	76	12	17	65	64
Cape Verde	21	32	88	91	34	44	62	73
Ghana	6	6	66	67	38	47	48	47
Kenya	24	24	88	90	56	67	63	66
Lesotho	55	38	92	90	34	69	84	79
Madagascar	5		80		50		63	
Malawi	15	15	90	93	70	76	71	68
Mali	20	34	95	85	49	69	48	62
Mozambique	23	14	69	50	79	54	58	56
Namibia	41	38	91	87	32	49	76	70
Nigeria	20	9	64	53	66	51	41	30
Senegal	7	11	64	86	21	44	31	40
South Africa	9	17	50	50	22	18	34	41
Tanzania	27	1	86	50	65	63	65	11
Uganda	15	5	82	76	70	82	33	33
Zambia	22	17	64	70	67	67	46	43
Zimbabwe	49		92		59		77	
Total	23	20	79	75	49	55	56	52

Sources : Afrobarometer surveys. Authors' calculations.

For the purpose of the analysis, therefore, we are interested in assessing the impact of the perception and experience of corruption on institutional trust. We will also test whether the impact of corruption on trust varies according to the ease of access to public services and, more specifically, whether corruption increases institutional trust when access to public services is difficult.

4 EMPIRICAL STRATEGY AND RESULTS

The aim of this paper is twofold. First, we seek to assess the impact of corruption (experienced or perceived) on institutional trust. Secondly, we test whether the effect of corruption on trust varies according to the quality of public service delivery.

4.1 Construction of the variables

Our dependant variable is built based on the following question in the *Afrobarometer* survey: "How much do you trust each of the following institutions, or haven't you heard enough about them to say?" As we have already stated, in our analysis, we only consider the answers given regarding the political institutions (president, parliament, independent electoral commission, ruling party and opposition parties). We compute a composite indicator of trust, which is equal to the average of the evaluations given for each institution (Cronbach's Alpha = 0.80). Scores range from 0 to 3, where the higher values indicate greater trust in the political institutions.

As explained in the previous section, we use two measures of corruption. The first one concerns the citizens' actual experience of petty corruption. Respondents were asked whether they had to pay a bribe in the past year to obtain various services. Possible answers are: never, once or twice, a few times, often. An average index was calculated to obtain an aggregate indicator of experience of corruption (Cronbach's Alpha = 0.74 in 2005 and 0.76 in 2002). The scores range from 0 to 4, with 4 denoting frequent experience of corruption. The second corruption index covers popular perceptions of the general prevalence of corruption among politicians and public officials. The scores are also on a 0 to 4 scale, with 4 indicating a high degree of perceived corruption².

² This is computed on the basis of questions on perceptions of corruption, as described in the previous section (Cronbach's Alpha equals 0.87).

We also calculate an indicator that captures the ease of access to public services for each citizen based on the questions concerning service “user-friendliness” and proximity (Cornbach’s Alpha = 0.70). Greater values mean easier access to public services.

We control the relationship between trust, corruption and public service quality with other covariates. First, we introduce a time and country dummy to take into account unobservable particularities.

Secondly, we add in a set of demographic variables such as age, gender and level of education. Age could be an important explanatory element of trust in political institutions. Younger people might be expected to exhibit greater institutional trust because, unlike their elders, their experience of political life is recent. This means that they might not have accumulated years of disappointment in the political institutions and may still have an idyllic vision of democracy (Seligson, 2002). In most of the studies on institutional trust, gender is a key determinant of trust, with women expressing less trust in political institutions (Seligson, 2002; Chang and Chu, 2006). Level of education is important too. Seligson (2002) points out that the most educated people are more likely to have a good knowledge of their political system and to criticize it. In addition, we introduce a variable that reflects exposure to the media.

Thirdly, we introduce variables to represent the citizens’ living conditions. This choice is driven by the theory of “economic vote” (Lewis-Beck and Stegmaier, 2000), which suggests that living conditions influence voting behaviour and attitudes towards governments. They consider that voters vote rationally and that they give their support to governments perceived as the most likely to improve their own living conditions. Given this, trust in political institutions depends on the citizens’ evaluations of their economic situation. More specifically, citizens may display higher trust in political institutions when they reckon that their living conditions are good or have improved. To capture the citizens’ living conditions, we use three *Afrobarometer* questions asking respondents about their expectations of changes in their living conditions and how they rate their living conditions compared with their fellow citizens and compared with twelve months previously.

Fourthly, we look at the citizens’ satisfaction with democracy and their evaluation of changes in the amount of freedom they have, of ordinary people’s influence on political decisions, and of equality. Citizens’ attitudes are not driven purely by their living conditions, but also by “political goods” such as political rights and liberties.

4.2 Results

In a first step, we assess the basic effect of corruption on institutional trust. Table 4 presents the results of the estimations performed on the entire sample of *Afrobarometer* countries. Columns 1 and 3 report on the results of the ordinary least squares estimation.

Some findings are in keeping with our expectations. The higher their level of education, the less the people trust the political institutions. For instance, having a post-secondary level of education rather than no formal education reduces institutional trust by 13% whereas having a primary school education only reduces trust by 7%. Our estimations show that the African citizens’ opinions of their political institutions are driven by both material needs and democratic values. All the variables describing the citizens’ living conditions and attitudes towards democracy and its outcome have a significant influence on institutional trust. As regards material needs, our findings suggest that the better the perception of living conditions and their development, the greater the trust in the political institutions. In terms of democratic values, our results indicate that a high level of satisfaction with democracy, a positive evaluation of changes in freedoms, of equality of treatment of citizens and of the influence of ordinary people on government decisions increase trust in the political institutions. For instance, the view that equality and fairness are improving raises trust by more than 20%.

However, other findings are quite surprising, especially the demographic variable coefficients. For instance, we find that gender has no influence on the level of trust, but that citizens who live in urban areas display greater trust in political institutions. The former suggests that women have as much trust as their male counterparts, which is quite new in the literature. The latter is counter-intuitive as individuals in urban areas are more likely to have a more critical point of view. Yet this finding can be

explained by the fact that policy measures are often more beneficial to urban areas. Our regressions also reveal that age has little influence on trust. Only one age bracket dummy, for 18-29 year olds, is significant. The coefficient is negative, meaning that young people express less trust in political institutions.

As regards our variables of interest, our results clearly show that perception and experience of corruption undermine institutional trust, and that perceived corruption has a larger negative impact than experienced corruption. The marginal effect (at the means) of the perception of corruption is -18% as opposed to -7% for experience of corruption. Our estimations also confirm that the quality of public service delivery increases institutional trust. Easy access to public services increases the level of citizens' trust in political institutions.

Columns 2 and 4 report on the coefficient estimates using the two-stage least squares procedure. The choice of this estimation technique is driven by the fact that trust in political institutions may also be a determinant of corruption (perceived and experienced). As explained by Chow and Kirwin (2007), institutional mistrust is likely to lead people to pay bribes in order to access public resources. It could hence increase experiences of corruption and foster the perception that corruption is widespread³.

We use two instruments to study the perceived level of corruption. A dummy variable, called "solution", taking the value of one if the respondent says he would pay a bribe to speed up the delivery of a government permit or licence. Another dummy variable taking the value of one if the respondent is the head of household. A few different instruments are used to study experiences of corruption: an indicator of vulnerability to illness, a variable capturing the respondent's intensity of religious practice and the "solution" variable. The choice of these instruments is based on the literature on the causes of corruption. A respondent who considers that paying a bribe is a solution in the event of a problem with the administration reveals that he has no moral barriers to corruption and that his propensity to bribe is high. The less adverse to corruption an individual is, the more likely he is to pay a bribe and then to perceive that bribery is widespread. Similarly, the head of household is generally more in contact with the public services and therefore has a greater chance of being a victim of or witnessing corruption and to hence believing it is common practice. Hunt (2006) and Guiso *et al.* (2003) emphasise that vulnerability and a low intensity of religious practice increase the occurrence of corruption.

In both cases, the Durbin-Wu-Hausman test finds significant endogenous regressor (i.e. corruption) effects on the estimates and instrumental variables techniques are required. Furthermore, in both cases the Sargan test confirms that the instruments are valid (i.e. uncorrelated with the error term) and that the instruments chosen are appropriate for the estimated equation.

This estimation technique does not make any great difference to our findings: the sign and significance of the coefficient estimates for most of our variables are similar to before. The coefficients of the corruption variables are still negative and significant, but they are larger. The marginal effects of the perception and experience of corruption are respectively -60% and -27% compared with -18% and -7% for the OLS estimations.

³ Numerous studies state that perception and experience of corruption are interlinked and self-reinforcing.

Table 4: Impact of corruption on the level of trust in political institutions

	Perceived corruption		Experienced corruption	
	OLS	2SLS	OLS	2SLS
Corruption and quality of bureaucracy				
Corruption	-0.18*** [0.01]	-0.60*** [0.08]	-0.07*** [0.01]	-0.27*** [0.04]
Quality of administration	0.05*** [0.01]	-0.01 [0.02]	0.07*** [0.01]	0.07*** [0.01]
Demographic characteristics				
Urban	0.10*** [0.01]	0.08*** [0.01]	0.11*** [0.01]	0.11*** [0.01]
Woman	-0.01 [0.01]	-0.02** [0.01]	-0.01 [0.01]	-0.01* [0.01]
18-29 years old	-0.04*** [0.01]	-0.02 [0.02]	-0.05*** [0.01]	-0.05*** [0.01]
30-39 years old	-0.00 [0.01]	0.01 [0.02]	-0.01 [0.01]	-0.02 [0.01]
40-49 years old	0.03* [0.01]	0.04** [0.02]	0.02 [0.01]	0.02 [0.01]
50-59 years old	0.03 [0.02]	0.04** [0.02]	0.02 [0.02]	0.02 [0.02]
<i>Ref: > 60 years old</i>				
Level of education				
Primary	-0.07*** [0.01]	-0.06*** [0.01]	-0.08*** [0.01]	-0.08*** [0.01]
Secondary	-0.11*** [0.01]	-0.08*** [0.01]	-0.12*** [0.01]	-0.12*** [0.01]
Post secondary	-0.13*** [0.01]	-0.08*** [0.02]	-0.15*** [0.01]	-0.14*** [0.01]
<i>Ref: no formal education</i>				
Exposure to media	-0.01** [0.00]	0.01 [0.01]	-0.01*** [0.00]	-0.01 [0.00]
Satisfaction with democracy	0.30*** [0.01]	0.24*** [0.01]	0.33*** [0.01]	0.32*** [0.01]
Change in freedoms	0.11*** [0.01]	0.09*** [0.01]	0.11*** [0.01]	0.11*** [0.01]
Living conditions compared with other people				
Same	0.02* [0.01]	0.00 [0.01]	0.03*** [0.01]	0.02* [0.01]
Better	0.05*** [0.01]	0.02** [0.01]	0.06*** [0.01]	0.06*** [0.01]
<i>Ref: worse</i>				
Change in living conditions				
Same	0.03*** [0.01]	0.03*** [0.01]	0.02*** [0.01]	0.02* [0.01]
Better	0.06*** [0.01]	0.06*** [0.01]	0.06*** [0.01]	0.06*** [0.01]
<i>Ref: worse</i>				
Change in influence				
Same	0.04*** [0.01]	0.02 [0.01]	0.04*** [0.01]	0.04*** [0.01]
Better	0.08*** [0.01]	0.06*** [0.01]	0.09*** [0.01]	0.09*** [0.01]
<i>Ref: worse</i>				
Development of equal and fair treatment				
Same	0.12*** [0.01]	0.08*** [0.01]	0.14*** [0.01]	0.13*** [0.01]
Better	0.23*** [0.01]	0.15*** [0.02]	0.26*** [0.01]	0.25*** [0.01]
<i>Ref: worse</i>				
Round 2 dummy	-0.38*** [0.01]	-0.36*** [0.01]	-0.39*** [0.01]	-0.39*** [0.01]
Country-specific effects	YES	YES	YES	YES
Constant	0.79*** [0.04]	1.74*** [0.18]	0.43*** [0.03]	0.51*** [0.04]
Observations	35134	33812	37135	35514
R-squared	0.40	0.41	0.37	0.38
Sargan statistic		1.669		4.325
Chi-sq(1) P-val		0.19		0.12
Wu-Hausman F test		30.38		29.41
F(1,33770) P-value		0.00		0.00

Standard errors in brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%.

In a second step, we want to specifically test the “efficient grease” theory. We use a multiplicative interaction model to analyse the trust-corruption nexus. The “efficient grease” hypothesis implies that the relationship between institutional trust and corruption varies with the level of red tape. Now it has been well established that the intuition behind conditional hypotheses is captured rather well by multiplicative interaction models (Brambor, Clark, and Golder, 2006). In other words, we include in our regressions one corruption variable (perception of the level of corruption or experience of corruption), one public service quality variable and a “corruption*service quality” interaction term (the product of these two continuous variables). In this step, we use the same model specification as previously (with the same set of control variables), but the discussion here will focus mainly on the interaction effect.

Table 5 reports on the coefficient estimates, but figures 4 and 5 give a clearer illustration of how the marginal effect of corruption on institutional trust changes with the assessment of public service quality.

Our results never find a positive impact of corruption on institutional trust. Nevertheless, the effect of the perception that corruption is widespread and the effect of having experienced corruption are quite different.

In effect, our findings indicate that the perceived level of corruption has a strong adverse effect on citizens’ trust in political institutions and that the scope of its negative effect increases with the quality of public services. This result can be seen as a partial validation of the “grease the wheels” hypothesis, since it shows that the negative impact of perceived corruption on institutional trust is lower in environments where the quality of public service delivery is low. However, this finding could be said to be driven by the citizens’ attrition of preferences. In other words, when public institutions are not performing well, corruption could be viewed as one institutional deficiency among others, so its impact is lesser. Conversely, when public services are deemed efficient, perceived corruption has a more negative effect on the citizens’ attitudes toward the institutions. In this case, corruption is considered to be a real problem that prevents the administration from being more effective and an issue that the political institutions have to address.

The adverse impact of experienced corruption on citizens’ trust in political institutions is not as strong. Moreover, this negative effect falls as the level of satisfaction with public service quality increases and it even becomes insignificant when public services are considered quite efficient (a score of more than 2.5 on a 3-point scale). This result suggests that the experience of corruption is considered all the more negative by individuals who find it hard to access public services.

These findings underline the fact that the “objective” corruption variable (practice and actual experience of corruption) and the “subjective” corruption variable (perception of the level of corruption) reflect two different aspects of this phenomenon, and that their respective impacts merit separate analysis.

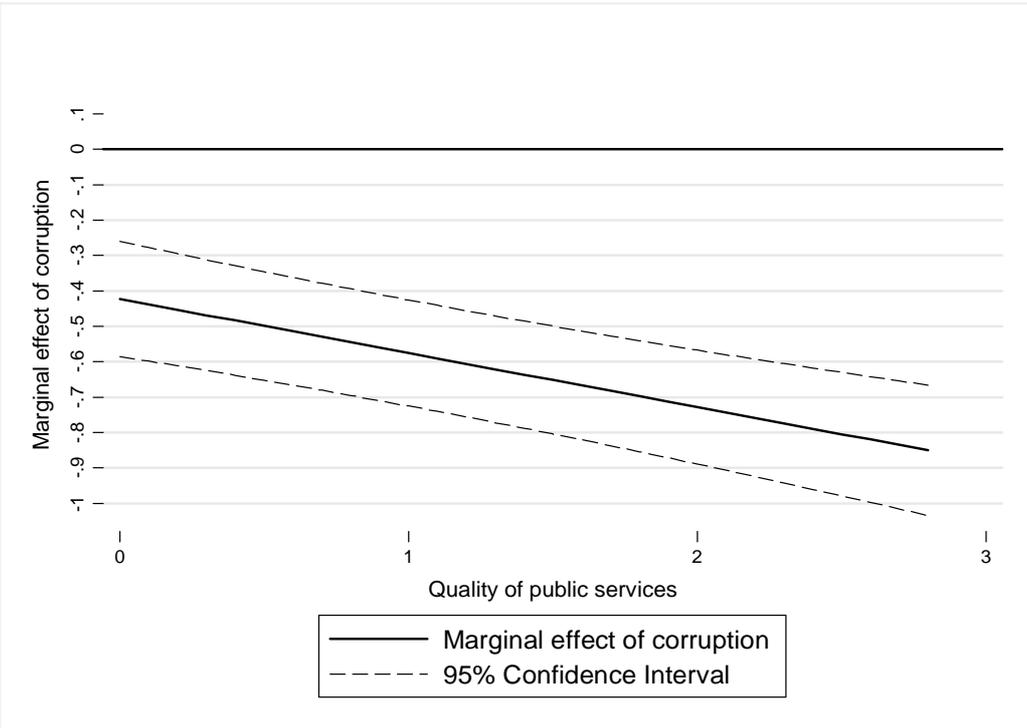
**Table 5: Impact of corruption on the level of trust in political institutions
(multiplicative interaction model)**

	Perception of corruption		Experience of corruption	
	OLS	2LS	OLS	2LS
Corruption and quality of bureaucracy				
Corruption	-0.17*** [0.02]	-0.42*** [0.08]	-0.09*** [0.02]	-0.34*** [0.07]
Quality of administration	0.07*** [0.02]	0.19*** [0.04]	0.07*** [0.01]	0.06*** [0.02]
Corruption*quality of administration	-0.01 [0.01]	-0.15*** [0.03]	0.01 [0.02]	0.07 [0.06]
Demographic characteristics				
Urban	0.10*** [0.01]	0.08*** [0.01]	0.11*** [0.01]	0.11*** [0.01]
Woman	-0.01 [0.01]	-0.02*** [0.01]	-0.01 [0.01]	-0.01* [0.01]
18-29 years old	-0.04*** [0.01]	-0.02 [0.01]	-0.05*** [0.01]	-0.05*** [0.01]
30-39 years old	-0.00 [0.01]	0.01 [0.01]	-0.01 [0.01]	-0.02 [0.01]
40-49 years old	0.03* [0.01]	0.04*** [0.01]	0.02 [0.01]	0.02 [0.01]
50-59 years old <i>Ref: > 60 years old</i>	0.03 [0.02]	0.04** [0.02]	0.02 [0.02]	0.02 [0.02]
Level of education				
Primary	-0.07*** [0.01]	-0.07*** [0.01]	-0.08*** [0.01]	-0.08*** [0.01]
Secondary	-0.11*** [0.01]	-0.08*** [0.01]	-0.12*** [0.01]	-0.12*** [0.01]
Post secondary <i>Ref: no formal education</i>	-0.13*** [0.01]	-0.09*** [0.02]	-0.15*** [0.01]	-0.14*** [0.01]
Media exposure				
	-0.01** [0.00]	0.01* [0.00]	-0.01*** [0.00]	-0.01 [0.00]
Satisfaction with democracy				
	0.30*** [0.01]	0.24*** [0.01]	0.33*** [0.01]	0.32*** [0.01]
Change in freedoms				
	0.11*** [0.01]	0.09*** [0.01]	0.11*** [0.01]	0.11*** [0.01]
Living conditions compared with other people				
Same	0.02* [0.01]	0.01 [0.01]	0.03*** [0.01]	0.02* [0.01]
Better <i>Ref: worse</i>	0.05*** [0.01]	0.03** [0.01]	0.06*** [0.01]	0.06*** [0.01]
Change in living conditions				
Same	0.03*** [0.01]	0.02** [0.01]	0.02*** [0.01]	0.02* [0.01]
Better <i>Ref: worse</i>	0.06*** [0.01]	0.05*** [0.01]	0.06*** [0.01]	0.06*** [0.01]
Change in influence				
Same	0.04*** [0.01]	0.02* [0.01]	0.04*** [0.01]	0.04*** [0.01]
Better <i>Ref: worse</i>	0.08*** [0.01]	0.06*** [0.01]	0.09*** [0.01]	0.09*** [0.01]
Development of equal and fair treatment				
Same	0.12*** [0.01]	0.09*** [0.01]	0.14*** [0.01]	0.13*** [0.01]
Better <i>Ref: worse</i>	0.23*** [0.01]	0.16*** [0.02]	0.26*** [0.01]	0.25*** [0.01]
Round 2 dummy				
	-0.38*** [0.01]	-0.37*** [0.01]	-0.39*** [0.01]	-0.40*** [0.01]
Country-specific effects				
	YES	YES	YES	YES
Constant				
	0.78*** [0.04]	1.51*** [0.18]	0.43*** [0.03]	0.52*** [0.04]
Observations				
	35134	35681	37135	35562
R2				
	0.40	0.38	0.37	0.38

Standard errors in brackets.

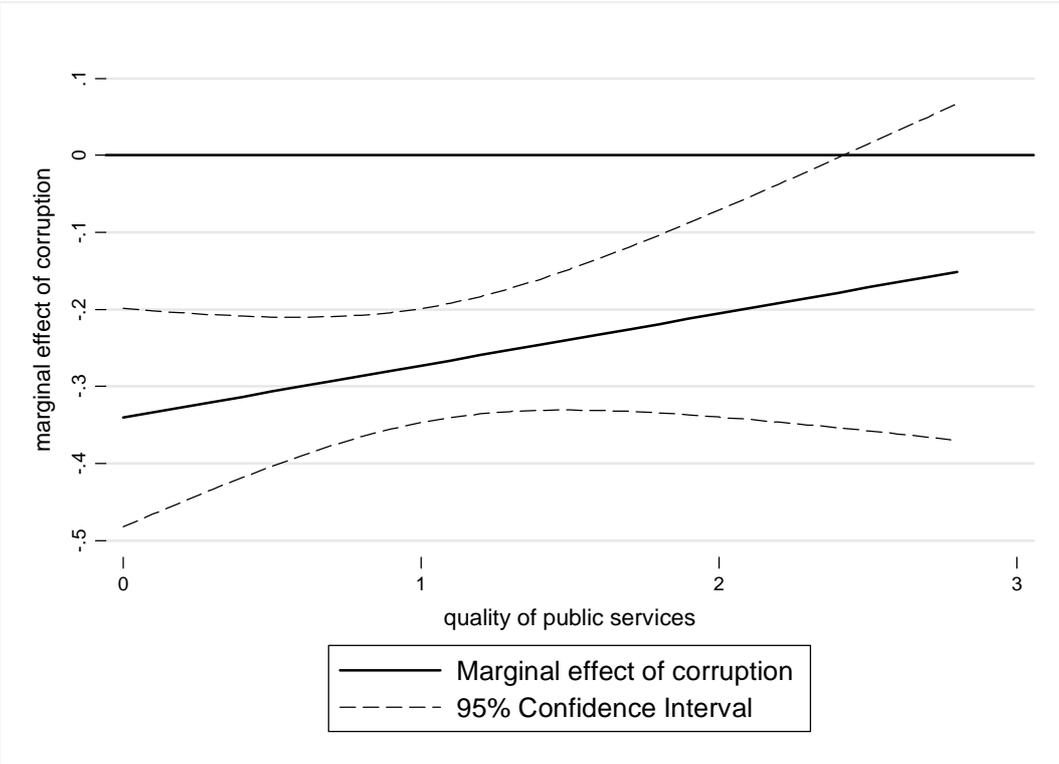
* significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 4: Marginal effect of perceived corruption on institutional trust as public service quality increases



Sources: Authors' calculations based on the methodology developed by Brambor, Clark and Golder (2006).

Figure 5: Marginal effect of experienced corruption on institutional trust as public service quality increases



Sources: Authors' calculations based on the methodology developed by Brambor, Clark and Golder (2006).

5 CONCLUDING REMARKS

Our analysis uses a rich collection of comparable household surveys conducted in 18 sub-Saharan African countries (*Afrobarometer Survey*) to shed light on the link between corruption (perceived and experienced) and trust in political institutions. More specifically, we set out to test the “efficient grease” theory that corruption can strengthen citizen trust since bribe paying and clientelism open the door to otherwise scarce and inaccessible services and subsidies, and that this increases institutional trust.

Our findings by and large reject this theoretical argument. Both experienced corruption and the perception that corruption is widespread have a negative impact on citizens’ trust in political institutions. We endeavour to take the observation of distrust a step further and study the extent to which this situation could depend on the quality of public services. An analysis of the interaction effect shows that the impact of corruption on institutional trust is never positive whatever the evaluation of public service quality. Yet the results reveal how perceived and experienced corruption impact differently on citizens’ trust in political institutions. The adverse effect of the perception that corruption is widespread is lesser when public services are hard to access; whereas the negative effect of experienced corruption decreases with the ease of access to public services.

These findings call for a certain number of more detailed and expanded studies. Among the possible avenues of research, we would mention two. Firstly, we would like to take a more in-depth look at national particularities. Although this study shows that general trends can be identified, the characteristics of the countries studied are quite different. This is shown specifically by the descriptive analysis of level of corruption, level of trust in political institutions and access to public services. The corruption victim’s individual characteristics can also differ from one country to the next. Secondly, the effects of social interactions should be considered to take proper account of national environments. The contexts, and especially the predominant opinions and attitudes in a given society, influence individual attitudes towards institutions and corruption. For example, among the explanatory factors, macro-characteristics (overall or average result per country) should be considered using the survey data themselves (level of trust between individuals or percentage of those who trust their fellow citizens, level of disapproval of corruption, level of development, and general evaluation of the quality and performance of the institutions). Lastly, an analysis could be made of the changes in the extent of corruption and access to public services over the period studied. The aim here is to test, for example, if the change in the situation, rather than (or as much as) the prevailing situation, has an influence on attitudes towards the institutions.

REFERENCES BIBLIOGRAPHIQUE

- Anderson, C. and Y. Tverdova (2003), "Corruption, Political Allegiances, and Attitudes Toward Government in Contemporary Democracies", *American Journal of Political Science*, No. 47(1), pp. 91-109.
- Abueva Veloso, J. (1966), "The Contribution of Nepotism, Spoils, and Graft to Political Development", *East-West Center Review* 1966(1), pp. 45-54.
- Bayley, D. (1967), "The Effects of Corruption in a Developing Nation", *Western Political Quarterly*, No. 19 (4), pp. 719-732.
- Becquart-Leclerq, J. (1989), "Paradoxes of Political Corruption: A French View", in Arnold J. Heidenheimer, Victor T. LeVine and Michael Johnston (eds), *Political Corruption: A Handbook*, New Brunswick, NJ, Transaction.
- Brambor, T., Clark, W.R. and M. Golder (2006), "Understanding Interaction Models: Improving Empirical Analysis", *Political Analysis*, 14, pp. 63-82.
- Bratton, M. (2007) "Are You Being Served? Popular Satisfaction with Health and Education Services in Africa." AB working papers No. 65, 2007
- Chang, E. and Chu, Y.H. (2006), "Corruption and Trust: Exceptionalism in Asian Democracies?" *The Journal of Politics*, Vol. 68, 2.
- Cho W. and M.F.Kirwin (2007), "A Vicious Circle of Corruption and Mistrust in Institutions in Sub-Saharan Africa: a micro-level analysis", *Afrobarometer Working Paper No. 71*, September.
- Della Porta, D. (2000), "Social Capital, Beliefs in Government, and Political Corruption", in Susan Pharr and Robert Putnam (Eds), *Disaffected Democracies: What's Troubling the Trilateral Countries?* Princeton, Princeton University Press.
- Dutt P. and D.Traca (2007), "Corruption and Bilateral Trade Flows: Extortion or Evasion?" INSEAD No. 2007/37/EPS.
- Guiso, L., Sapienza, P., Zingales, L. (2003), "People's Opium? Religion and Economic Attitudes," *Journal of Monetary Economics*, Vol. 50(1), January, pp. 225-282
- Herrera J., Roubaud F. (2006), « Gouvernance, démocratie et pauvreté dans les pays andins : Bolivie, Equateur, Pérou », mimeo, DIAL, Paris.
- Huntington, S. (1968), *Political Order in Changing Societies*, New Haven, Yale University Press.
- Hunt J., Lazlo, S. (2006) "Bribery: Who Pays, Who Refuses, What Are The Payoffs?" *NBER Working Paper* No. W11635, September.
- Kaufmann, D.Kraay and Zoido Lobaton (1999), "Aggregating Governance Indicators", World Bank Policy Research Working Paper, No. 2195, The World Bank, October.
- Kaufmann, D. and Wei, S-J. (1999), "Does 'Grease Money' Speed Up the Wheels of Commerce?" *NBER Working Paper*, No. 7093.
- Lavallée, E. (2006a), «Corruption et confiance dans les institutions politiques : test des théories fonctionnalistes dans les démocraties africaines », *Afrique Contemporaine*, n° 220, pp. 163-190.

- Lavallée, E. (2006b) “Similarité institutionnelle, qualité des institutions et commerce international”, *Economie Internationale*, Vol. 108, pp. 27-58.
- Lavallée, E, Razafindrakoto, M. and Roubaud, F. (2007) “Les mécanismes à l’origine de la corruption” mimeo DIAL.
- Leff, N. (1964), “Economic Development though Bureaucratic Corruption”, *The American Behavioural Scientist*, 8, 2, p. 8-14.
- Lewis-Beck, M. and Stegmaier, M. (2000) “Economic Determinants of Electoral Outcomes”, *Annual Review of Political Science*, No. 3, pp. 183-219.
- Mauro, P. (1995), “Corruption and Growth”, *Quarterly Journal of Economics*, 60(3), pp.681-712.
- Méon, P.-G. and Sekkat, K. (2005), “Does Corruption Grease or Sand the Wheels of Growth?”, *Public Choice*, 122, 1-2, pp. 69-97.
- Méon, P.-G. and Weill. L. (2006), “Does better governance foster efficiency? An aggregate frontier analysis”. *Economics of Governance*, Vol. 6, pp. 75–90.
- Merton, R. (1968), *Social Theory and Social Structure*, New York, Free Press.
- Mishler, W. and Rose, R. (2002), “What are the Political Consequences of Trust? A Test of Cultural and Institutional Theories in Russia”, Paper presented at the conference on Democracy in Russia, Uppsala University, Sweden.
- Myrdal, G. (1968), *Asian Drama: An inquiry into poverty of nations*, New York, Pantheon Books.
- Nye J.S. (1967), “Corruption and Political Development: A Case-Benefit Analysis”, *American Political Science Review*, 61(2), pp. 417-427
- O’Donnell G. (1999), “Horizontal Accountability in New Democracies.” in *The Self-Restraining State*, eds. Schedler, Andreas, Larry Diamond and Marc F. Plattner. Boulder: Lynne Rienner
- Razafindrakoto, M., Roubaud, F. (2006), Are International Databases on Corruption Reliable? A Comparison of Expert Opinion Surveys and Household Surveys in Sub-Saharan Africa, DIAL, DT2006/17, Paris.
- Seligson, M. (2002), “The Impact of Corruption on Regime Legitimacy: A Comparative Study of Four Latin American Countries”, *Journal of Politics*, No. 64 (2), pp. 408-433.
- Taylor–Robinson M. (2007), “Presidential and congressional elections in Honduras, November 2005”, electoral studies, [Volume 26, Issue 2](#), June 2007, pp. 521-524
- World Bank (1997), World Development Report, Washington D.C.
- World Bank (2002), World Development Report, Washington D.C.