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Corruption and Pro-Poor Growth Outcomes: Evidence and Lessons for African Countries

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Corruption and Pro-Poor Growth Outcomes:
Evidence and Lessons for African Countries[*]

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Abstract

There is growing consensus on the view that corruption hurts economic performance by reducing private investment, by adversely affecting the quantity and quality of public infrastructure, by reducing tax revenue, and by reducing human capital accumulation. In addition to *inefficiency effects* – causing lower growth for a given endowment in factors and technology –, corruption also has adverse *distributional effects* as it hurts the poor disproportionately. For a given level of government budget and national income, high corruption countries achieve lower literacy rates, have higher mortality rates, and overall worse human development outcomes. Corruption deepens poverty by reducing pro-poor pubic expenditures, by creating artificial shortages and congestion in public services, and by inducing a policy bias in favor of capital intensity, which perpetuates unemployment. High levels of corruption in African countries constitute one of the factors explaining not only slow growth but also limited progress in poverty reduction. Eradicating corruption in African bureaucracies is a challenging task, especially because it is a systemic phenomenon that exhibits a strong tendency for *hysterisis*. Therefore, explicit strategies are necessary to change the incentive structure by modifying the payoffs and sanctions that govern the interactions between bureaucrats and private economic operators. Strategies to fight corruption include measures to increase transparency in the management of public resources, establishing an incentive structure that rewards honest behavior among civil servants, enforcing transparency in international contracts and equal penalties to all parties to corrupt deals, and promotion of a free and responsible media.

Key words: Corruption; pro-poor growth; rent-seeking; African countries

JEL Classification: I38; O43; O55

1. INTRODUCTION

In recent years, the need to accelerate growth and poverty alleviation in African economies has gained prominence in domestic and international policy circles. Investment in poverty alleviation has become the primary measuring stick for the commitment to economic development in national policy as well as in the development assistance community. The emerging consensus is that while growth is necessary, it is not sufficient to overcome deep poverty. The development community has committed to tackling the greatest challenge of the 21st century, which is "to provide every human being on the planet with a long, healthy, and fulfilling life, free of poverty."[*] This new focus on poverty alleviation is supported by broad-based advocacy initiatives and has generated promises for increased funding for development, including the recent commitment to debt cancellation by the major industrialized countries.

However, the high expectations from the recent declarations of "making poverty history" have not yet materialized in African countries. At the current pace, the chances for most African countries of achieving the millennium development goals are quite slim. According to the UNECA's *Economic Report of Africa* 2005, sub-Saharan Africa is the only region where the poverty headcount (below one dollar per day) has steadily increased since 1980 (UNECA 2005). In the 2005 *Human Development Report*, 30 of the 32 countries classified in the "low human development" category are in sub-Saharan Africa (UNDP 2005). Of the 38 severely indebted low income countries, 32 are in the sub-continent. The majority of these same countries are spending less on education and health care than on external debt service despite the promises of debt relief and higher aid disbursement. It is clear that without more resource inflows, sub-Saharan countries will not make much progress in addressing the problems of extreme poverty, endemic hunger, the HIV/AIDS pandemic, and unacceptably high death toll from preventable and curable diseases such as malaria, and tuberculosis.

Even with increased external funding, however, progress in accelerating growth and fighting poverty will be limited unless substantial improvements are achieved in the efficiency of utilization of funds. In the past, a large fraction of aid and borrowed funds flowing into many African countries has been squandered into wasteful projects that left the countries indebted with nothing to show for in terms of social development. Another fraction of these funds has been embezzled and used to finance the accumulation of private assets abroad. As ironic as it may sound, research has shown that Africa is a "net creditor" to the rest of the world in the sense that outflows of funds vastly exceed inflows and private assets held abroad exceed the continent's liabilities to the rest of the world (Ndikumana and Boyce 2003; Boyce and Ndikumana 2001, 2005). In the meantime domestic resources mobilization is hampered by institutionalized theft and bureaucratic inefficiencies, and the proceeds from natural resources in many African countries are

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[*] Excerpt from the World Bank's ad of its *MiniAtlas of Millennium Development Goals: Building a Better World* (July 2005), accessed online at http://publications.worldbank.org.

embezzled by politicians in connivance with their domestic as well as international cronies in the private sector.

It is therefore evident that the efforts to mobilize development finance in order to stimulate growth and alleviate poverty must be complemented by equally vigorous efforts to fight corruption. In the press release accompanying its 2005 report, Transparency International highlights the "double burden of poverty and corruption" that plagues less developed countries. According to Transparency International, "corruption is a major cause of poverty as well as a barrier to overcoming it" (Transparency International 2005). Corruption exists in all bureaucracies and political systems around the world. It is not a developing country problem; it is not an African problem. However, corruption causes much more damage to the African people than to developed countries' populations. While the continent hosts some of the most destitute households in the world, it also counts some of the wealthiest individuals on the planet. Former Zairian dictator Mobutu once held assets abroad that exceeded his country's external debt (Ndikumana and Boyce 1998). The former dictators of Nigeria amassed wealth in several billions of dollars by milking the country's oil reserves in connivance with international oil corporations. The anti-corruption commission in Kenya unmasked billions of dollars stashed abroad by former president Moi and his collaborators.[†] Even when these sums of stolen money are uncovered, they are difficult to repatriate because of the complexity and complicity of western financial centers.

The plunder of African resources is a double blow to African economies. It bleeds the countries of their resources and also denies the African people the benefits that may accrue from investment of the stolen funds in the country. It is sad and ironic that wealthy African dictators have to end their lives in clinics (or on the plane going to clinics) in Western countries. If they had only used some of the stolen money to build modern private hospitals at home and equip them, and build private hotels and vacation resorts and roads that lead to these estates, at least these ventures would have generated some employment and their loots could have greased national financial systems, thus yielding positive externalities in the economy. The debate on resource mobilization for development and poverty alleviation must therefore focus urgently on strategies for curbing and reversing the financial hemorrhage that corruption inflicts on African economies.

The first step in designing strategies to prevent corruption is to understand the scope and vehicles of corruption. This paper provides a review of the literature and discusses the main conclusions from the evidence from Africa and other developing regions. The paper examines the mechanisms through which corruption arises and is perpetuated in the economy and discusses how corruption affects economic growth and undermines efforts to fight poverty. Existing empirical evidence from the literature is examined and supplemented with results from statistical analysis based on cross-country data from 1990 to 1999. The choice of the sample period was constrained by availability of data on governance indicators. The ultimate objective of the study is to contribute to the discussion of strategies that need to be envisaged in African countries in their drive to

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[†] See Holmquist (2005) for a discussion of politics and corruption in post-Moi Kenya.

establish an institutional environment that allow to maximize the use of national resources and increase the marginal impact of economic growth on poverty alleviation.

2. CORRUPTION: WHAT IS IT AND WHY DO WE CARE?

Corruption as a rational self-perpetuating phenomenon

Corruption is generally understood as the abuse of government office to extract rent in the provision of public services. Corruption is the outcome of a systematic decay of state institutions. In other words, "corruption is a symptom of something gone wrong in the management of the state" (UNDP 1997: xi). Sociologists characterize the phenomenon of corruption as a symptom of a dysfunctional relationship between the state and the citizenry, which involves three important phenomena: bribery, extortion and nepotism (Alatas 1968: 11). Corruption consists of the "subordination of public interests to private aims involving a violation of the norms of duty and welfare, accompanied by secrecy, betrayal, deception, and a callous disregard for any consequence suffered by the public" (Alatas 1968: 12). Corruption erodes the norms of integrity, responsibility, and accountability and it institutionalizes impunity.

Corruption is both systemic and deliberate. As Charap and Harm (2002: 137) put it, corruption is "the natural result of efficient predatory behavior in a lawless world." While corruption may be harmful to society as a whole, it is beneficial to the individuals who perpetrate it. Therefore, corruption is not a *behavioral pathology*. Corrupt bureaucrats find it privately more beneficial to use government regulation and to manipulate the law to create corruption opportunities or economic rent rather than earn an honest wage by providing services as required by the law. Thus corruption is the outcome of a calculated move by bureaucrats to maximize their own material wellbeing to the detriment of society as a whole. Moreover, corruption tends to be contagious because of institutionalized impunity and greed on the part of bureaucrats. Once corruption sets in one sector of the government system, it tends to spread into the other spheres of public service and eventually becomes systemic. Once corruption becomes systemic, it becomes expected by both the bureaucrats and ordinary citizens, which creates a vicious circle whereby corruption creates expectations of corruption that generate demand and supply for bribes, extortion and nepotism.

Corruption is thus endogenous in the sense that it is the outcome of deliberate decisions by agents that manipulate and exploit the institutional environment to maximize their gains, which may be material or non-material. It is the manipulation of the institutional environment that creates the "lawless world" that allows corruption to take place and also perpetuates impunity. Therefore, "lawlessness" is deliberate and beneficial to the corrupt bureaucrats. Because of the benefits that corruption brings to its beneficiaries, and because of the ability of the latter to manipulate the institutional environment to make corruption possible, corruption then becomes a self-perpetuating phenomenon. Once a system is corrupt it is likely to become more corrupt unless explicit and systematic efforts are undertaken to eradicate the phenomenon.

Corruption, the individual, and the state

In one of his *Business Week* columns, Nobel Prize winning economist Gary Becker once claimed that abolishing the state would get rid of corruption (Tanzi 2002). In this sense, Becker assigns the guilt of corruption to the state rather than the individual. French writer and philosopher Jean Jacques Rousseau argued that "it is not the corruption of man which destroys the political system but the political system which corrupts and destroys man" (Heidenheimer, Johnston, and LeVine 1989: 19). Taken literally, the Beckerian view is problematic on two fronts. First, not all states are corrupt and the level of corruption varies over time within a given country. The more useful question is what factors make some states more corrupt than others and what factors cause corruption to increase (or decrease) within a particular country over time.

Secondly, Becker's proposition is simply not practical. While countries can't do much with corrupt governments, no country can do without a government either. The functioning of a modern economy requires state regulation that sets and enforces the rules of exchange. Efficient institutions are the key factor of economic performance and social stability over time (North 1990). The issue then is how to establish and enforce the appropriate mechanisms that make the state efficient at promoting economic exchange. The fact of the matter is that we have no substitute for the state. The proven inability of markets to "do it all" is the very basic reason for the existence of the state.

The Beckerian association of corruption with the state is the result of a conflation of two different phenomena, namely the existence of the state and the control of power within the state. It is not the existence of the state *per se* that generates corruption but it is the concentration of power within the state that makes corruption possible. Lord Actor's dictum has it that "all power tends to corrupt and absolute power corrupts absolutely" (Heidenheimer, Johnston, and LeVine 1989: 16). Lack of checks and balances generates corruption by allowing individuals in power to manipulate the law to create opportunities for bribes, extortion and patronage. Moreover, monopolization of power allows corrupt acts to remain unpunished, especially due to lack of independence of the judiciary. Indeed historical evidence confirms Friedrich's law, which predicts that the degree of corruption varies inversely to the degree that power is consensual (Friedrich 1989).

Every political system has been corrupt at some point in history. In the 1700s, Britain was viewed by American colonists as very corrupt (Heidenheimer, Johnston, and LeVine 1989: 4). Over time, consolidation of the democratic process and the strengthening of checks and balances that accompanies it led to a reduction in systemic corruption. The main lesson from this historical evidence is that it is possible for any country to reduce corruption to levels that are relatively harmless to economic exchange. Moreover, the evidence implies that corruption is not specific to any country or region of the world. The key to minimizing corruption is the ability of a country to engineer a balanced distribution of power and adequate checks and balances within the state.

Why the recent focus on corruption?

Corruption is by no means new in human society. Corrupt behavior was considered a sin in most civilizations as illustrated in books, work of art, and oral tradition. In the American Constitution, corruption was explicitly mentioned as one of the crimes that could justify impeachment of the President (Tanzi 2002).

Just as corruption is not a new phenomenon, efforts to eradicate it and prevent it are not new either. Constitutions at all times have included rules that prohibit abuse of bureaucratic power for private gains and to prevent conflict of interest in the exercise of public service. Legal systems include provisions for prosecution of acts of corruption by public officials. However, these legal dispositions have not prevented corruption from running rampant in many countries. Recently attention on corruption has increased substantially both within countries and in the international community. Several factors explain this increased focus on corruption especially in less developed countries (see Tanzi 2002). We highlight the main factors here.

The first reason for the increased attention to corruption and the drumming up of the rhetoric on fighting corruption is the end of the Cold War and the changes in international geopolitics that have accompanied it. During the Cold War, evidence of endemic corruption in developing countries was overlooked for political reasons. Donors and individual governments in the West were willing to tolerate corruption and even indirectly finance corruption among client states to advance strategic interests. A vivid example of this practice of turning a blind eye to corruption is the case of the Mobutu regime in former Zaïre. Mobutu was regarded as a key instrument in the fight against the expansion of Soviet influence in Africa. For this reason, Mobutu obtained generous financial and military support from Belgium, France and the United States. Evidence of corruption and embezzlement of borrowed funds and natural resources did not deter official support to the regime (Ndikumana and Boyce 1998). A report compiled by Mr. Erwin Blumenthal, a World Bank envoy in the country, produced ample evidence of irregularities and misappropriation in the management of government funds and natural resources to the benefit of the president and his entourage (Dungia 1982). The report clearly stated that Mobutu did not care about repayment of public debts, but that he counted on the "generosity" of his creditors for indefinite renewal of loan agreements. Mobutu was too important an ally in Cold War politics for the West to risk alienating him with demands for financial integrity. Today, such cold war political considerations have ended and this may explain the stronger insistence by the West on eradicating corruption in Africa and other developing regions.

The second factor that explains the increased focus on corruption is the rise in democratization and freedom of the press, which has provided the political space for the public to scrutinize corruption and demand more accountability on the part of governments. The rise in civil society activity has contributed to bringing the issue of corruption to higher levels in national and international policy debates.

The third important factor is the pressure for economic reforms and the new evidence on the role of governance for economic performance (Hillman 2004). The fight against corruption is often included in development assistance conditionalities. This focus on

corruption is a result of the belated realization that aid poured in the hands of corrupt leaders is not only economically wasteful but can also be politically destabilizing. Indeed aid to corrupt regimes contributes to instability as it tilts the balance of power further in favor of the incumbent regime, to the detriment of the forces of social change.

The attention to corruption has also been increased by pressure from NGOs and various advocacy groups that are concerned about its effects on human rights. Corrupt regimes tend to also be the worst abusers of human rights, partly as a means of suppressing demand for accountability and economic justice. A related motivation for the pressure for the eradication of corruption is global security. Corrupt regimes are more likely to succumb to pressure from terrorist groups or may simply be so weak that they are not able to contribute to the efforts to promote security around the world.

This increased focus on corruption has transpired in the media, academic research, and even legislation in the West as well as in the Third World. In its December 1995 issue, *Financial Times* characterized 1995 as the year of corruption. Policy makers and researchers have been brought to the realization that it is impossible to improve economic performance and raise the living standards of the poor without tackling the issue of corruption. The World Bank and the IMF have invested in research on corruption. The effort has been echoed in academia, taking advantage of the increased availability of information on measures of corruption from watchdog institutions such as Transparency International. Governments and international bodies responded by establishing new anti-corruption institutions and voting agreements and treaties to fight corruption in international business practice. For example, the United Nations adopted the Action Against Corruption in December 1996, which includes an international code of conduct for public officials.

Nonetheless, despite this increased focus on corruption, it remains one of the biggest challenges faced by governments and the international development assistance community. There is evidence on the devastating effects of corruption on the economy, the political system, and society as a whole. To overcome corruption, it is essential to understand its causes and vehicles in order to design the appropriate policy responses. The next section discusses the various vehicles of corruption as identified in the literature.

3. CAUSES AND VEHICLES OF CORRUPTION

Theoretical research on the causes and vehicles of corruption draws from the work of Bhagwati (1974), Krueger (1974), and Rose-Ackerman (1978), among others. This strand of literature characterizes corruption as the outcome of some form of government regulation that creates opportunities for rent. Because the government has monopoly in the provision of services, the private actor is a captive victim of the rent-seeking bureaucrat. In a corrupt bureaucracy, the private actor must pay bribes to "get business done." If private businesses expect corruption, then they internalize it by passing the cost of bribes onto the consumer through price surcharges. Ultimately, corruption generates a Pareto inferior outcome by making society as a whole absolutely worse off.

The literature has identified several factors that are associated with corruption. While definitive causal linkages are difficult to establish, the evidence suggests that wherever these factors exist, corruption will prevail. These factors include discretion in public spending, the structure of the tax system, low relative wages in the public sector, embezzlement of external borrowing and aid, and lack of transparency in international contracts in natural resource extraction. This section discusses how these factors relate to corruption.

(1) Discretion, distortion, and government spending as a vehicle of corruption

Corruption is by and large a byproduct of government intervention (Acemoglu and Verdier 2000). Most cases of corruption involve extraction of bribes and kickbacks in relation to expenditures on government projects and services. This kind of corruption is made possible by the discretion that the policy maker enjoys in determining the type, size, composition, and geographical location of projects and service delivery points. Corruption is associated with market imperfections and illegality or secrecy. It is the secret and illegal use of monopoly status associated with regulation of economic exchange that generates corruption.

The level of discretion varies across types of government services or sectors. For example, the government has more discretion on capital expenditures than recurrent expenditures (Mauro 1998). While a government official can manipulate expenditures on a road construction project in order to extract kickbacks, it is more difficult to embezzle civil servant salaries. The bureaucrat will allocate the road project to the construction company that promises the highest kickbacks. Roads are often located not in regions with the highest economic potentials but in the native regions of influential political figures. Such rent-seeking practices and politically motivated decisions create inefficiencies and inequality in the allocation of public infrastructure. Inequality in resource distribution in turn perpetuates corruption as it undermines the ability of the disadvantaged regions or groups to challenge rent-seeking and discriminatory practices. At the same time, private actors that benefit from corruption in the bureaucracy (e.g., those that are granted monopoly rights in commerce and industry) provide support to the regime against political pressure for change.

There is ample evidence for this vicious circle of discretion, monopoly, and endemic corruption. In a study of the political economy of conflict in Burundi, Ngaruko and Nkurunziza (2000) show that the allocation of public infrastructure was solely motivated by political interests and how corruption and patronage generated a skewed distribution of resources in favor of the southern region that controlled power since independence. By concentrating education infrastructure in the south, the ruling elite were able to perpetuate their grip on power by suffocating intellectual advancement in the rest of the country. Through patronage and nepotism, the control of the entire economic system remained also in the hands of the southern elite. Political interests dictated the allocation of public infrastructure as well. For example, the more politically influential southern regions of Bututsi and Mugamba saw modern roads before the regions in the East, North,

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and Northwest of the country although the latter have much higher potential for agricultural production and trade. The case of Burundi shows that corruption and nepotism not only have detrimental economic effects but they are also politically destabilizing.[‡]

(2) The tax system as a vehicle of corruption

A number of characteristics of the tax systems in less developed countries make them prone to corruption. First the tax systems tend to be complex, which makes it difficult for taxpayers to know exactly their tax liabilities and their rights. Tax collectors can overstate or threaten to overstate tax liabilities to extract bribes. The rational response for the taxpayer is to bribe the tax collector to reduce the effective tax burden. Such an arrangement enriches the tax collector, alleviates the current tax burden on the private actors, but robs the government and society of valuable resources.

The second feature of the tax system that provides opportunities for corruption is the discretionary power of the fiscal authority to grant tax exemptions, tax cuts, and other privileges. This discretionary power is often used to advance sectarian interests, including those of ethnic and regional interest groups. Efforts to improve efficiency in tax collection often are hampered by the resistance from the fiscal authority that is reluctant to relinquish this discretionary power over tax administration. For example, in the case of Uganda, moves to grant autonomy to the Uganda Revenue Authority (URA, created in 1991) created frictions between the URA and the customary authority, namely the Ministry of Finance, partly because autonomy of the URA meant a weakening of the power of the Minister of Finance over tax administration (see Ndikumana and Nanyonjo 2005; Therkildsen 2004).

Another feature of the tax system that increases the propensity for corruption is excessive centralization. In addition to inefficiencies due to delays in tax administration, centralization also increases the discretionary power of the central authority, which leads to higher corruption.

Corruption in the tax system perpetuates the tendency for evasion on the part of taxpayers while establishing a culture of impunity among tax collectors. Corruption also causes an uneven spread of the tax burden. Wealthy and politically connected individuals find ways to minimize their tax burden while the poor and disenfranchised taxpayers bear the full tax incidence. In the business sector, evidence tends to show that large firms are able to use their leverage to evade taxation while small enterprises benefit from informality to also evade taxation. The burden of taxation therefore falls disproportionately on the medium sized enterprises (Gauthier and Reinikka 2001), which also happen to be the most dynamic segment of the private sector in developing countries. Therefore, corruption in the tax system imposes severe constraints on the development of the business sector.

[‡] Also see Ndikumana (2005) for a discussion of predation and unequal distribution of resources as a source of instability in Burundi.

(3) Debt and external collusion with kleptocracy

One vehicle of corruption that has been relatively less emphasized in the literature on corruption is the looting of external debt and aid by government leaders. Aid and external debt are subject to corruption in many ways. First, government officials who are responsible for debt management simply embezzle the funds. Second, government officials extract kickbacks on projects financed by debt. Third, due to fungibility of aid/debt and imperfect monitoring by donors and lenders, inflows of external finance allow government officials to embezzle domestic funds while maintaining a "normal" level of activity in the public sector. In this sense, rather than financing corruption directly, external finance indirectly facilitates corruption. The fourth and very important route by which external finance is associated with corruption is through capital flight. A large faction of the borrowed funds ends up in bank accounts and other assets held abroad by private individuals. In many instances, in a phenomenon referred to as "round tripping", part of the loans do not even leave Western banks as the funds are simply credited to private accounts on behalf of government officials (Boyce 1992).

Capital flight involves shared responsibility of corrupt government leaders in developing countries and Western lenders. In many cases, lenders continue to pour money in the hands of corrupt leaders even when there is ample evidence that the money is being embezzled and that there is little prospect for repayment of the loans. Such lending occurs either because of strategic reasons in the case of official lending or because of immunity from default due to generous public guarantees in the case of private loans. A blatant example of complacent lending to a corrupt regime is the case of former Zaïre under president Mobutu who ruled the country from 1965 to 1997 (Ndikumana and Boyce 1998). By the end of the 1980s, it was clear that Mobutu's regime was in serious difficulties financially and that its solvency was severely threatened. While private financiers began to pull out, official lenders continued to support the client regime. The West could not abandon its client; cold war politics obliges. A private banker observed the following: "Mobutu was untouchable in client terms – I couldn't think of exposing another penny to him. The country was virtually bankrupt and massive inflows of foreign exchange were clearly being siphoned off… In that context if there were any bankers still willing to lend money, there are some serious questions to be asked about them" (Ndikumana and Boyce 1998: 209). Corruption, generously funded by the West, contributed to the decay of ethics in the management of public funds. This made corruption a self-perpetuating phenomenon.

The externally sponsored corruption in former Zaïre under Mobutu is also a vivid illustration of the asymmetry of the impact of corruption. While the people of Zaïre were left crumbling under the weight of over \$14bn in external debt, the Western financiers got away with murder and profited from their irresponsible lending. It is clear that both Mobutu and his financiers share the responsibility for the stolen wealth. The case of former Zaïre under Mobutu exemplifies the situation in many other countries in Africa and in other regions of the developing world (Ndikumana and Boyce 2003; Boyce and Ndikumana 2001; Boyce 1992). From 1970 to 1996, capital flight from 30 sub-Saharan African countries amounted to \$187 billion, exceeding their debt obligations by \$84.9

billion (Ndikumana and Boyce 2003). The majority of these countries spend less on health and education than on debt service and are also plagued by high levels of corruption (Table 1). Financial hemorrhage compromises the efforts of promoting growth and fighting poverty. Debates over corruption must pay serious attention to the problem of capital flight from African countries and other developing regions.

(4) Public sector wages, incentive structure, and corruption

It is often argued that bureaucratic corruption in less developing countries is due to low wages in the public sector. Civil service wages are regarded as lower compared to private sector wages for comparable qualification and experience. Therefore bureaucrats commercialize government services and embezzle public funds to make up for the disadvantage in the pay rate. Moreover, controlling for qualification and productivity, compensation packages tend to be skewed in favor of the top echelons of the bureaucracy, which forces the rank and file civil servants to use corruption to compensate for the gap.

Two theoretical arguments have been used to motivate the connection between corruption and civil service wages: the efficiency wage argument and the fair wage argument[§] (Hillman 2004; van Rijkeghem and Weder 2001). According to the efficiency wage argument, given that monitoring of the behavior of civil servants is imperfect, high wages are needed to deter corruption. A higher wage implies a higher cost of being caught in a corrupt undertaking and losing the job. Thus, low relative wages in civil service reduce the cost of corruption. In other words, at low wages the expected benefits from extortion, embezzlement, and bribery exceed the gains from honest behavior.

According to the fair wage argument, civil servants engage in corruption to compensate for the differential between their compensation package and that of the higher ranked colleagues or those employed in juicier positions such as parastatals. Here again, imperfect monitoring is what permits corruption to take place. The top officials are better compensated but they do not have access to a technology for monitoring the rank and file civil servants perfectly.

There is an obvious factual flaw with the fair wage argument. In practice, there is no bureaucracy where the rank and file civil servants are corrupt while the top officials are honest. More often than not, the top ranked officials are the most corrupt and their corrupt acts are more damaging to the welfare of society and the quality of institutions. Nonetheless, there is a legitimate case for reducing the unfairness of the wage distribution within the bureaucracy. This will not only increase worker morale but also reduce the incentives to struggle for the capture of government positions. Fair wages not only reduce inequality but they also raise productivity and lower the risk of social instability.

It can also be argued that corruption is due to low absolute wages. Civil servants may engage in corruption because their wages do not cover the minimum level of


[§] The fair wage argument for the relationship between civil service wage and corruption is related to the Akerlof-Yellen fair wage effort hypothesis of unemployment (Akerlof and Yellen 1990).

consumption. This would be interpreted as need-induced corruption, indicated by C_need on Figure 1. At wages below the living wage W_L, bureaucrats extract need-induced corruption. The lower the wages, the higher the level of corruption. Corruption that occurs at wages above the living wage is due to greed. The argument is similar to the one advanced by Becker and Stigler (1974) who suggested that paying bureaucrats a wage above a certain "opportunity wage" encourages honest behavior. Moreover, good wages in the private sector prevents the flight of skills from the public sector to the private sector. Figure 1 also suggests that greed-induced corruption cannot be completely eliminated by raising wages.

Figure 1: Public sector wages and corruption: need vs. greed-induced corruption
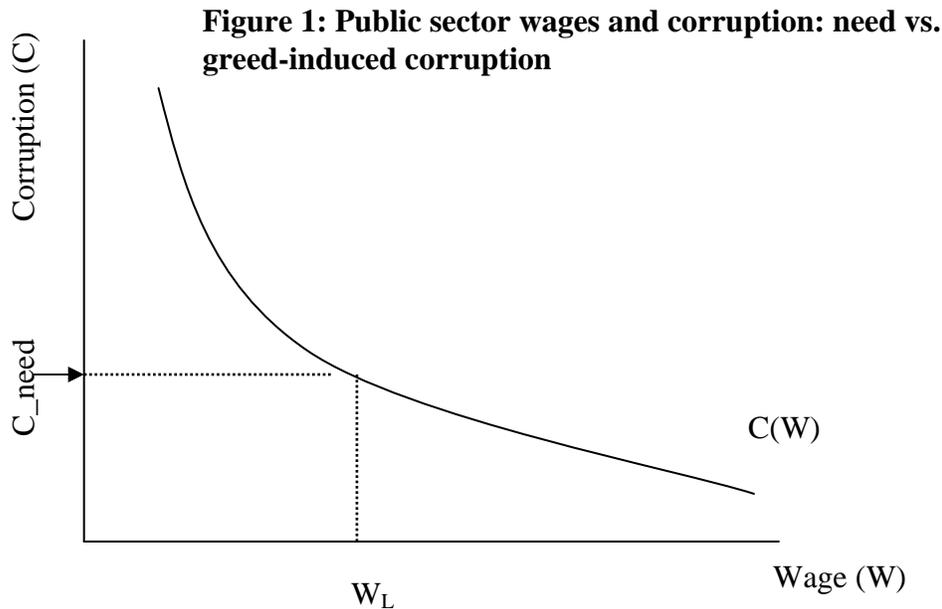
One explanation given in the literature to motivate the link between low absolute wage and corruption appeals to morality. The argument is that "people in need are more likely to abandon their moral principles" (Mauro 1998: 4). This argument is fundamentally flawed and is not supported by evidence. Corruption is orchestrated not by the neediest members of society but usually by the wealthiest. In fact the neediest are the victims rather than the perpetrators of corruption. Moreover, it is wrong to associate moral principles with wealth. From biblical ages, material wealth has always been associated with poor moral principles (such as greed and social insensitivity) rather than moral virtue.

The relationship in Figure 1 suggests a monotonic link between public sector wages and corruption. However, higher wages may increase corruption by giving the bureaucrat more bargaining power in extracting rent. Moreover, given that higher wages also raise the cost of being caught, once the bureaucrat succumbs to temptation, he/she will raise the asking price for engaging in a corrupt deal (Mookherjee and Png, 1995). The corruption curve becomes upward sloping above the "temptation wage" as in Figure 2.

Figure 2: Public sector wages and corruption with imperfect monitoring and enforcement

Corruption (C)

C(W)

"Temptation wage'

Wage (W)
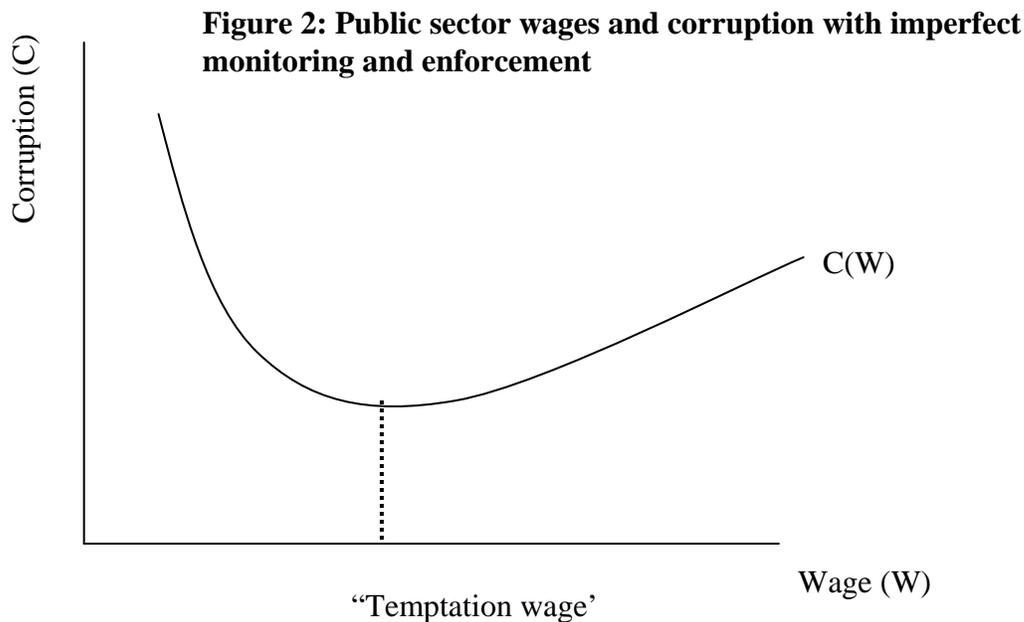
Given that monitoring is imperfect, even bureaucrats that are well paid may succumb to temptation if presented with large amounts of payments. Morality is made, not born. The implication is that in addition to higher wages, it is necessary to invest in monitoring and to enforce penalties in order to deter corruption.

(5) Lack of transparency, natural resource extraction and international corruption

Instead of contributing to economic development, revenues from natural resources are often embezzled by government leaders in connivance with multinational corporations. A fraction of the receipts from these resources ends up in private off-shore accounts belonging to government officials. Highly incriminating reports have been published by international watchdogs such as Transparency International and Global Witness that document large sums of money that are left unaccounted for in resource rich countries. In one of its reports, Global Witness characterized corruption in Angola as a human drama (*La Moustique*, 9 November 2005). Since 1996, more than a billion of dollars of oil revenues have disappeared. At the same time, one out of four Angolan children dies before the age of five as a result of insufficient nutrition and health care. Similar cases of embezzlement are frequently identified in other oil rich African countries such as the Republic of Congo and Equatorial Guinea (*La Moustique*, op cit).

In 1995 the government's chief executive for the Lesotho Highlands Water Project was prosecuted and found guilty for receiving up to two million pound in bribes from multinational companies involved in the project. Some of these companies included British corporations that had received up to 66 million pound of loan guarantees from the Export Credits Guarantee Department of the British government (*New Statesman,* 16 September 2002). Whereas the Lesotho government official was sentenced to 18 years in prison for corruption, the British corporations got away with it. This example illustrates

the tragedy of corruption in the natural resource industry in African countries. External partners to corrupt deals enjoy both financial and political protection, which shields them from accountability in illicit business practices. Even when efforts are undertaken to prosecute corruption, the process is unequal and asymmetric whereby the rigor of the law applies to the African counterpart while exonerating the external partners. Western countries have laws on the books against corruption by their multinational companies, but such laws are poorly enforced when financial crime takes place in developing countries. Corruption in natural resource extraction is a shared responsibility between bureaucrats in developing countries and international companies, and it is perpetuated partly because of the complacent attitude of Western governments that are unwilling to enforce their own laws against corruption.

## 4. CORRUPTION AND PRO-POOR GROWTH

4.1. Corruption and growth: channels of causation

There is growing consensus on the view that corruption is a constraint to economic performance (Tanzi 2002; Svensson 2005; Gyimah-Brempong 2002). Cross-country evidence shows that countries with low income are also plagued with high levels of corruption, which in turn prevents these countries from growing fast and reaching higher levels of living standards. However, as Figure 3 indicates, the relationship between corruption and income is complex. Countries with similar levels of corruption may have vastly different levels of income. Ethiopia and the United Arab Emirates have similar corruption indexes (4.46 and 4.5, respectively), but per capita income in the Emirates ($24557) is 264 times that of Ethiopia ($93). Similarly, the Democratic Republic of Congo has a much higher level of corruption than Mozambique although the two countries have a similar level of per capita income.
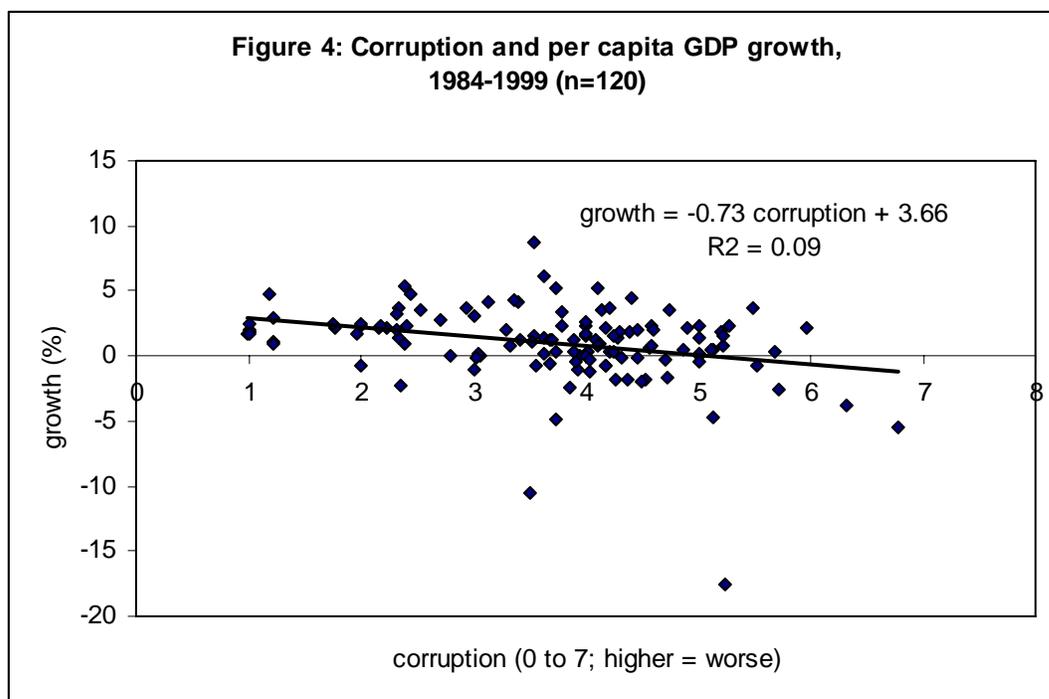
As can be seen in Figure 4, cross-country data is suggestive of an overall negative relationship between corruption and economic growth, although the relationship is less pronounced than that between income and corruption. However, this relationship also appears to be complex as countries with similar levels of corruption achieve different levels of growth. Nonetheless, empirical evidence in the literature supports the notion that amelioration of corruption has a quantitatively large effect on growth. For example, Mauro (1995) finds that a reduction in the corruption index by one standard deviation raises the growth rate of GDP per capita by 0.8 percentage points per annum. The author finds that an improvement of the corruption index from 6 to 8 (on a scale of 1 to 10 where 10 indicates the lowest corruption) raises growth by 0.5 percentage points (see Mauro 1998). Pellegrini and Gerlagh (2004) find that a decline in the corruption index by one standard deviation raises growth by 0.20 percentage points. Gyimah-Brempong (2002) finds similar results for a sample of 21 African countries for the period 1993-99. A unit increase in the corruption score is associated with a reduction in growth by between 0.7 and 0.9 percentage points. These results suggest that the potential dividends from improvement in the governance are large.

To corroborate these findings we examine cross-country data for the period from 1980 to 1999 using simple correlation and OLS regression analysis. Table 2 reports the coefficients of correlation between economic performance indicators and governance indexes. One striking fact from the data is that compared to other developing regions, Sub-Saharan Africa has worse governance indicators and worse economic performance indicators (Table A1 in the appendix).[**] The results in Tables 2 show a very high association of per capita income and corruption as well as other indicators of governance. The correlation coefficients in Table 2 range from 69 to 81 percent and are highly statistically significant. The growth rate of per capita GDP is also negatively correlated with corruption and other governance indicators although the correlation is not as high as that of per capita income (from 0.31 to 0.45).

Table 3 reports OLS regression results obtained from estimation of a simple model where the indicator of economic performance is regressed alternatively on the various governance indicators and a control variable. For GDP growth, the regression includes domestic investment as a control variable. For regressions with the other indicators, the control factors included in the equation are the growth rate of per capita GDP and life expectancy. However, for child mortality rate, only GDP growth is included in the regression due to collinearity between child mortality and life expectancy. Only the coefficient on the governance indicator and the associated coefficients of elasticity are reported in Table 3. As can be seen in the first row of the Table, the results show a strong negative effect of corruption and other governance indicators on income and economic growth.

Figure 3: Corruption and (log of) per capita GDP (n=120)

$ln(gdp) = -0.82corruption + 10.69$

$R^2 = 0.42$
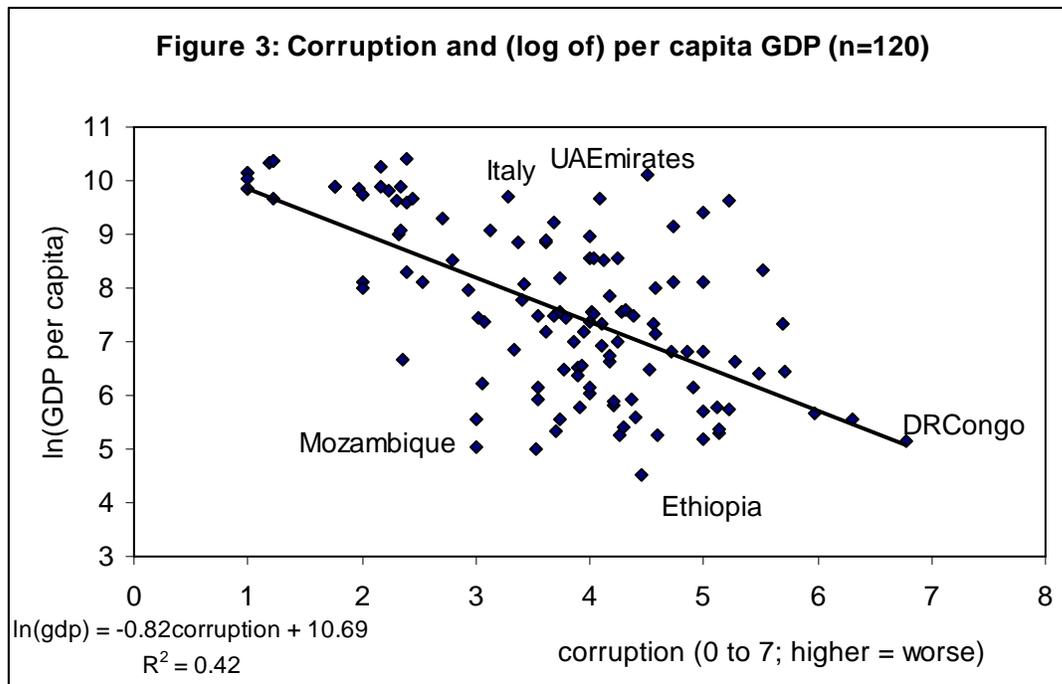
[**] Details on the governance and economic performance indicators used in the analysis may be obtained from the author.

Figure 4: Corruption and per capita GDP growth, 1984-1999 (n=120)

growth = -0.73 corruption + 3.66
R2 = 0.09

growth (%)

corruption (0 to 7; higher = worse)

The question arising from this evidence is how exactly corruption affects growth. In this section we discuss the various channels that have been identified in the literature with an emphasis on the following: private investment, public infrastructure, tax revenue, human capital accumulation and productivity, and political instability.

(1) Corruption retards economic growth by reducing private investment

Private investment has been demonstrated to be a key factor for long-term economic growth. If corruption discourages private investment, it will retard growth. Corruption discourages investment – both domestic and foreign investment – because bribes, kickbacks, and other forms of illicit payments increase uncertainty and the cost of production and reduce profitability (Mauro 1995; Tanzi and Davoodi 2002a). Corruption acts as a special tax on businesses because unlike the official tax, it is secret and uncertain. The corruption tax is uncertain partly because agreements between the investor and the bureaucrat are not enforceable. If the bureaucrat defects to the agreement, the private investor cannot appeal to the law since he/she also broke the law by engaging in a corrupt deal. Thus the corruption tax cannot be internalized, which undermines the investment climate.

The magnitude of the effects of corruption on investment is quite large. Pellegrini and Gerlagh (2004) find that a one standard deviation decrease in the corruption index raises private investment by as much as 2.46 percentage points. This increase in private investment in turn raises GDP growth by about 0.34 percentage points, which compounds the direct effect of the decline in corruption on growth. In Mauro's sample, investment rises by 2.9 percent following a decline in corruption by one standard deviation (Mauro 1995). The improvement in corruption has large indirect effects,

notably through the accelerator effect whereby higher growth of income stimulates private investment. Through the investment channel, a reduction in corruption therefore generates an investment-growth virtuous circle that launches the country on a faster growth path. Indeed, Mauro (1998) concludes that the largest effect of corruption on growth operates through its negative effect on private investment, accounting for about one third of the overall negative effect. The empirical evidence suggests that the long-term effects of corruption are large as corruption depresses capital accumulation, implying that endemic corruption is likely to keep countries stuck in low-growth equilibria.
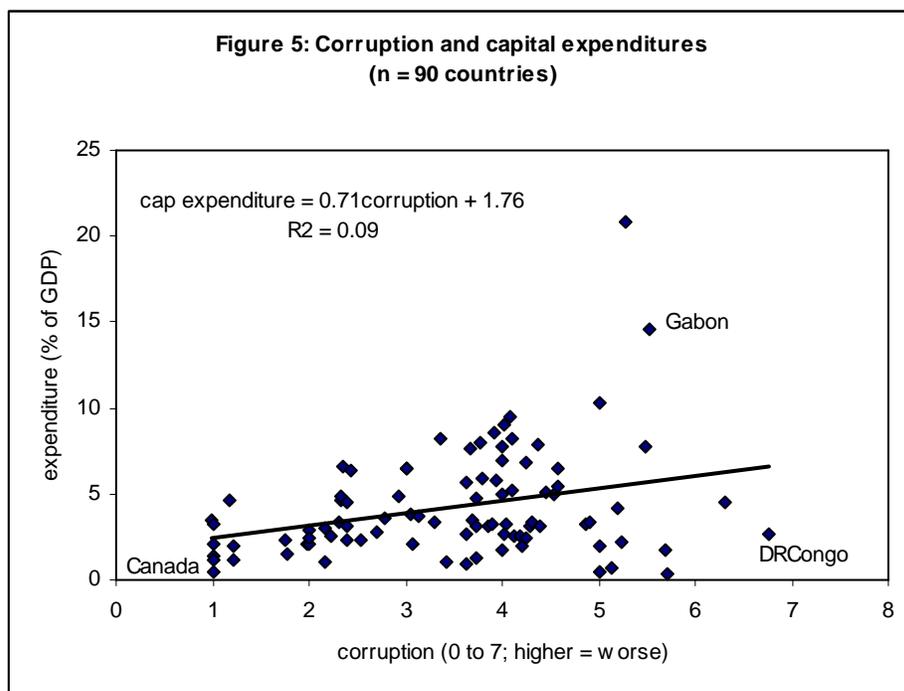
(2) Corruption reduces growth through its effects on the quantity and quality of public investment

Corruption has adverse effects on growth through its impact on public investment. Corruption affects the quality of public investment by encouraging the choice of public investment on the basis of expected private gains for decision makers rather than the benefits for society. Indeed quite often, governments end up building "roads that go nowhere" (Driscol 1998), simply because they generate kickbacks or because they serve decision makers' political interests.

Corruption also affects the quality of public infrastructure by inducing decision makers to give priority to new projects to the detriment of maintenance of existing infrastructure, partly because new projects generate higher kickbacks (Mauro 1998; Tanzi and Davoodi 2002b). This bias in favor of new projects is also encouraged by the old "golden rule" that requires government to finance recurrent/maintenance expenditures by current revenue whereas capital expenditure can be financed by borrowing. In the end, corruption may lead to higher, not lower public infrastructure, due to these rent-seeking and golden-rule incentives (Tanzi and Davoodi 2002b). Indeed as can be seen in Figure 5 and Tables 2 and 3, cross-country data shows that higher corruption is associated with higher capital expenditures. However, note also that some countries with high corruption also have very low levels of capital expenditures. The key point is that corruption hurts the economy by undermining the quality of public infrastructure due to rent-seeking by bureaucrats. While endemic corruption may be consistent with high levels of public investment, growth will be retarded by the poor quality of public infrastructure.[††]

The data exhibits a high negative correlation between corruption and social expenditures, especially public health (with a correlation coefficient of over 60 percent). Measures of social wellbeing – under-5 child mortality and life expectancy – are negatively correlated with corruption while inequality is positively correlated with corruption. The data clearly demonstrates the double bias in expenditure allocation: in favor of capital expenditure relative to maintenance expenditures, and in favor of capital expenditures to the disadvantage of social services.

[††] Devarajan, Easterly and Pack (2003) argue that public investment in Sub-Saharan Africa is too high. Their point is similar to the one being raised here, that resources may be inefficiently allocated into unproductive public infrastructure, reducing the effects of investment on growth.

Figure 5: Corruption and capital expenditures
(n = 90 countries)

cap expenditure = 0.71corruption + 1.76
R2 = 0.09

Gabon

Canada

DRCongo

expenditure (% of GDP)

corruption (0 to 7; higher = worse)

(3) Corruption retards growth by reducing tax revenue

Corruption retards growth by adversely affecting tax revenue (Shleifer and Vishny 1993). This relationship comes out clearly in cross-section data as illustrated in Figure 6 and Tables 2 and 3. Corruption reduces the tax base by disrupting trade and investment and through leakages due to tax evasion by tax payers and embezzlement by tax collectors. As tax revenue dwindles, funding for public infrastructure will be constrained, which retards growth.

In a study covering 39 sub-Saharan African countries over the period 1985-1996, Ghura (1998) finds that corruption is one of the strongest predictors of tax revenue, along with openness and endowment in oil. This implies that measures taken to reduce corruption are likely to enhance tax revenue significantly.

Figure 6: Corruption and tax revenue (n = 90 countries)

Tax revenue = - 4.21corruption + 35.55
R2 = 0.34

Tax revenue (% of GDP) — vertical axis (0 to 50)

Corruption (0 to 7; higher = worse) — horizontal axis (0 to 8)
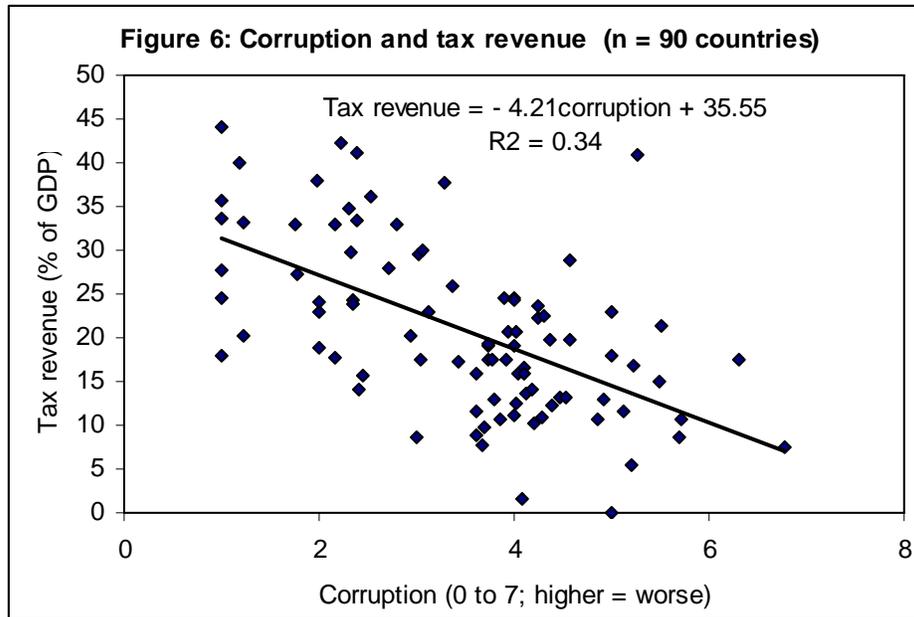
(4) Corruption slows down growth through its effects on human capital

Corruption diverts skills into unproductive activities, which adversely affects overall productivity in the public sector. Bureaucrats spend valuable time chasing bribes, kickbacks and other forms of illicit bonuses rather than delivering services and implementing government regulations. Corruption also distorts decision making with regard to education by inducing individuals to choose the professions that generate opportunities for rent seeking rather than those that are most appropriate to individual skills or the needs of society. As a result, productivity of human capital is compromised.

Moreover, corruption depresses human capital formation by undermining efficiency in education funding. Due to a combination of inefficiencies and corruption, the education budget is often squandered and only a fraction is effectively spent on education infrastructure and supplies. For example, in Uganda, a tracking study on education found that in 1996, only 36 percent of the contributions from the central government reached schools (World Bank 2002). Therefore, corruption prevents the country from achieving its potential of human capital formation and therefore reduces economic performance.

(5) Corruption retards growth by increasing the risk of political instability

Corruption also retards growth by increasing the risk of political and social instability. While the elite fight for the control of power to maximize opportunities for rent-seeking, the citizenry becomes further disenfranchised. The intra-elite struggle can contaminate the general social climate as the elite form coalitions and mobilize political support from the population. The population's discontent can be exploited by elites seeking to advance their goals behind a rhetoric of fighting for the interests of the disenfranchised citizenry. The combination of intra-elite rent-seeking struggle and demand for reform by the citizenry can ignite social and political conflict, thus undermining economic performance.

To summarize, corruption adversely affects growth through the many determinants of economic performance. High corruption will therefore be associated with mediocre economic performance. In the following subsection we discuss how the effects of corruption fall disproportionately on the poor, thus deepening deprivation and worsening income inequality.

4.2 Effects of corruption on growth, on the poor, and on inequality

The evidence discussed thus far establishes unambiguously that corruption has adverse effects on the factors that promote growth. In addition to *inefficiency effects* – causing lower growth for a given endowment in factors and technology –, corruption also has adverse *distributional effects* because it affects the poor disproportionately. This section discusses the various ways in which corruption has detrimental effects on the poor, with an emphasis on the following five important channels: the effects on the income of the poor; the effects through the quantity of pro-poor services; adverse effects of corruption-induced macroeconomic imbalances; the effects through congestion in public service delivery; and the effects on the quality of public services. Some quantitative evidence from the literature is discussed to illustrate these effects.

(1) Corruption slows down growth of the income of the poor

Corruption has an immediate effect on the poor because it depresses overall growth. As the country's overall income slows down, that of the poor is negatively affected as well. In fact, a slowdown in the economy is likely to affect disproportionately the poor more than the wealthier members of society, especially given that the poor have less diversified sources of income. Conversely, empirical evidence shows that an improvement in GDP growth is associated with a relatively large increase in the growth rate of the income of the poorest segments of the population. According to the study by Gupta, Davoodi, and Alonso-Terme (1998), a one percentage point increase in per capita GDP growth is associated with a 1.2 percent growth of the income of the 20 percent poorest (see also Gupta, Davoodi, and Alonso-Terme 2002).

In addition to the indirect effects of corruption through growth, the empirical literature also finds that corruption has a direct effect on the income of the poor. Gupta, Davoodi, and Alonso-Terme (2002) show that a one standard deviation increase in the growth rate of corruption (corresponding to a deterioration of 0.78 percentage points of corruption in their sample) causes a decline in the growth rate of the income of the bottom 20 percent of the population by 1.6 to 4.7 percent per year. Gyimah-Brempong (2002) finds that higher corruption is associated with higher income inequality in African countries, which suggests that corruption hurts the poor more than the rich, or at least we can say for sure that corruption benefits the poor much less than the rich.

Note that there is a possibility of a reverse causality in the relationship between corruption and inequality. Higher income inequality causes greater imbalances in the distribution of power, which in turn fosters corruption among the powerful elites.

Corruption is thus perpetuated by the inability of the poor to mobilize politically against it.

(2) Corruption deepens poverty by reducing pro-poor public expenditures
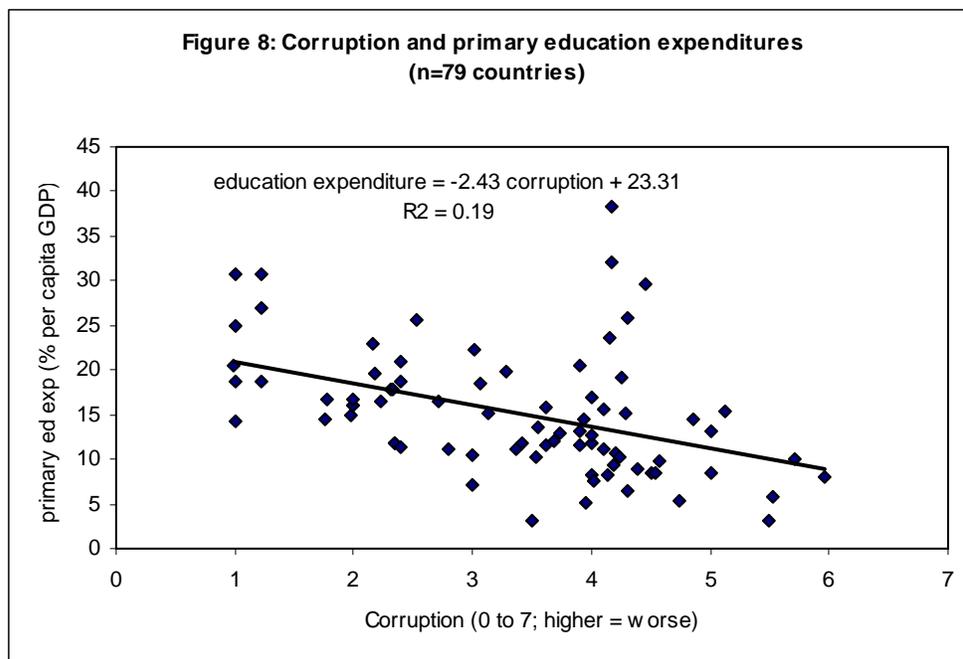
Corruption increases poverty by reducing the volume of public expenditures that are inherently pro-poor such as education and health because of the bias towards expenditures that generate rent in the form of bribes and kickbacks. A corrupt government tends to favor expenditures on new infrastructure (see Figure 5) and military equipment, which enjoy higher degrees of discretion. The ability to secretly inflate the bill for high tech military equipment and the payoffs from doing so are much higher than, for example, those from manipulating the salaries of elementary school teachers. In the case of military expenditures, both demand-side and supply-side factors enhance the pro-military bias in the budget (Gupta, De Mello, and Sharan 2001). From the supply side, the end of the cold war has added pressure on suppliers to compete for new markets in the developing world. From the demand side, governments have monopoly in providing services and enjoy secrecy in military-related operations. These factors increase the opportunities for corruption and cause a bias in the composition of public expenditures to the disadvantage of pro-poor social services. Indeed as can be seen in Figures 7 and 8, cross-country data shows that high corruption is associated with low expenditures on public health and basic education. As social expenditures decline, the poor are disproportionately affected given that they cannot afford to switch to privately provided services.

Figure 7: Corruption and public health expenditures (n=125 countries)

health expenditure = -0.97corruption + 6.95
$R^2 = 0.43$

y-axis: health expenditures (% of GDP)
x-axis: Corruption (0 to 7; higher = worse)

Figure 8: Corruption and primary education expenditures
(n=79 countries)

education expenditure = -2.43 corruption + 23.31
R2 = 0.19
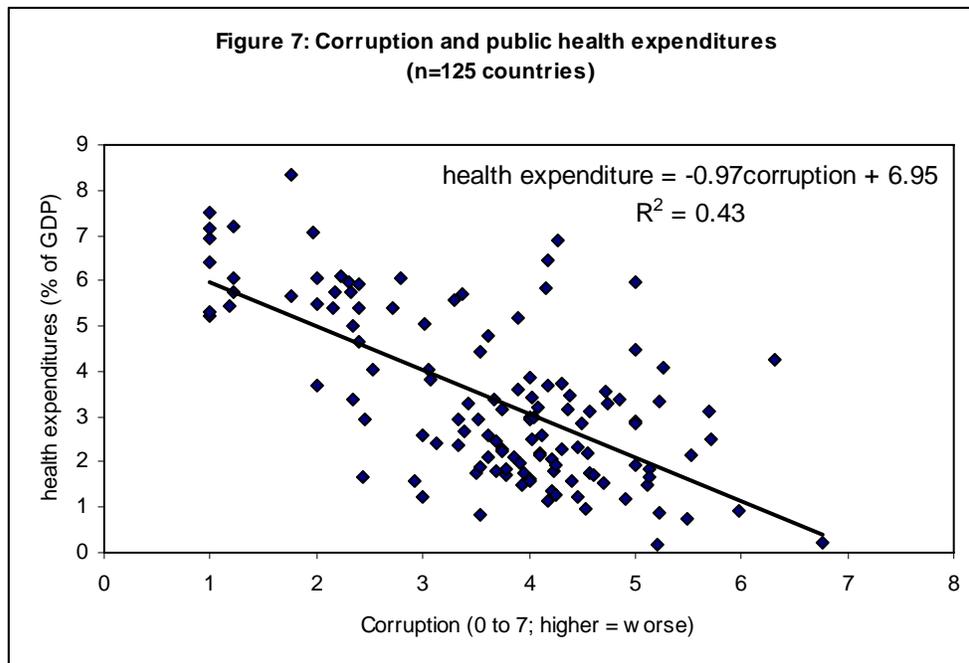
The effects of corruption on social service provision are quantitatively large. Gupta, Davoodi, and Tiongson (2002) find that compared to countries with low corruption, those with high corruption have infant mortality rates that are twice as high and primary school drop out rates that are five times as high. The study also shows that a rise in income has a lower effect on living standards in high corruption countries. The income elasticity of child mortality, infant mortality, and low-weight birth babies in low-corruption countries is about twice higher than the elasticity in high-corruption countries (Gupta, Davoodi, and Tiongson 2002: 267). The results suggest that corruption obstructs the transmission mechanisms that translate income gains at the national level into improvements in living standards at the household level.

The key finding from the evidence from the literature and the results presented in Figures 3-8 and Tables 2 and 3 is that corruption has both inefficiency and allocative/distributional effects. Corruption affects GDP growth and the composition of government expenditures. Corruption reduces income, GDP growth, taxes, current expenditures, and social expenditures while it raises child mortality, capital expenditures, and military expenditures. The estimated elasticities in Table 3 indicate that the effects of corruption are quantitatively large. The largest effects are on growth and child mortality. The worsening of the governance environment depresses economic growth and raises child mortality disproportionately. The results constitute further justification for consistent efforts to curb corruption. Without an improvement in governance and the institutional environment, any increase in development financing is likely to be squandered into wasteful projects or siphoned into private wealth. In fact new resources may serve to deepen institutional decay rather than improving the living standards of the population.

(3) Adverse effects of corruption-induced macroeconomic imbalances

Corruption causes macroeconomic imbalances that have adverse effects on the poor. In addition to reducing tax revenue, corruption also raises discretionary expenditures, causing the deficit to increase. Given that corruption is also associated with weak independence of the Central Bank, deficit financing will be met by seignorage, which creates inflation. At the same time, corruption eventually discourages external financing while raising the demand for foreign exchange to finance discretionary imports. The resulting depreciation of the national currency amplifies the inflationary pressures arising from monetization of the deficit.

Inflation disproportionately hurts the poor and fixed-income households in general by eroding their purchasing power. Moreover, by increasing uncertainty, inflation will discourage business expansion, which in turn discourages employment creation. Therefore, macroeconomic imbalances caused by corrupt management of government's budget contribute to deepening poverty by eroding the purchasing power of the poor and by undermining employment creation in the private sector.

(4) Corruption discourages demand and causes congestion in social services

For a given level of publicly provided services, corruption causes low effective use of services. Bureaucratic corruption creates delays in service delivery and shortages of services as a way of generating opportunities for bribes and through embezzlement of supplies. Corruption thus creates artificial congestion and increases the effective costs of public services. Given that the poor are least able to pay for these extra costs, they are excluded and further marginalized, which deepens poverty.

The congestion effects of corruption on public service delivery have powerful policy implications. The debate on strategies to improve living standards for the poor often emphasizes the need for higher funding for social services. However the foregoing analysis suggests that larger budgets may not necessarily achieve this goal without substantial improvement in transparency and accountability in procurement procedures and better monitoring of the behavior of public officials involved in public service delivery. Effective audit mechanisms increase the value added of existing allocations while enhancing the marginal benefits from new investments in public services. Without better monitoring mechanisms, higher funding will only enrich corrupt bureaucrats and politicians.

Congestion in public services often results also from corrupt practices that prevent entry into the service sector. Barriers to entry in the form of explicit laws or due to extortions contribute to perpetuating government's monopoly in service delivery. The public becomes a captive victim of rent-seeking bureaucrats and the economy is caught in a vicious circle of corruption-congestion-corruption that perpetuates low service delivery and poor living standards.

The functionalist view argues that corruption allows private agents to get around delays, shortages, and congestion in the public service sector by serving as "the grease for the

squeaky wheels of a rigid administration" (Kaufmann 1997: 116).[‡‡] However, empirical evidence overwhelmingly proves that corruption is associated with a deterioration of the quality of services (Gupta, Davoodi, and Tiongson 2002). As the quality of public services deteriorates, the poor who have nowhere else to turn to are disproportionately affected.

Deterioration of public services deepens inequality and perpetuates poverty across generations. As the quality of public education deteriorates, the children of the poor are denied the chances for upward social mobility and remain trapped into low standards of living. Similarly, as public health care deteriorates, the poor suffer the most as they cannot afford private health care. Vulnerability to diseases erodes the ability of the poor to access the labor market, which undermines their chances of overcoming poverty. Corruption thus perpetuates poverty by reducing the quantity and quality of public service delivery.

(5) Corruption causes a capital intensity bias

Another way in which corruption affects the poor is by inducing a bias in favor of capital in the production system. In most tax systems, incentives for private sector promotion are often designed in terms of investment tax credit and tax holidays. In order to benefit from these incentives, businesses will tend to hire more capital than labor. A corrupt bureaucracy also encourages investment in capital because it generates a source for bribery as firms negotiate tax incentives. This hurts the poor, especially the unskilled, by reducing incentives for employment creation. Moreover, corporate tax evasion benefits the wealthy who own companies. The poor are thus penalized twice: corruption takes away opportunities for employment while eroding government revenues, which reduces public service provision.

5. FIGHTING CORRUPTION AND ADVANCING PRO-POOR GROWTH IN AFRICAN COUNTRIES

Eradicating corruption is a challenging task, especially because it is a systemic phenomenon that exhibits a strong tendency for hysterisis. Countries that are corrupt tend to remain corrupt for a long time. While those who benefit from corruption have incentives to perpetuate it, the victims of corruption learn to cope with it so that corruption becomes expected and self-perpetuating. Therefore, strategies are necessary to change the incentive structure by modifying the payoffs and sanctions that govern the interactions between bureaucrats and economic operators. This section explores some strategies that have been proposed in the literature and discusses their promises as well as their limitations in the context of African countries.

*(1) Deterrence in a non-Weberian state: a paradox*

[‡‡] For detailed exposition of the functionalist view, see include Lui (1985) and Flatters and MacLeod (1995).

Debates over strategies for fighting corruption in Africa must confront the fact that from an individual perspective, corruption does not arise from *behavioral pathology*; it is consistent with rational behavior. Corrupt bureaucrats maximize their own individual interests given the constraints associated with the institutional environment. Therefore, the focus must be on finding the appropriate technology to detect, punish, and deter dishonest practices in bureaucracies. The other fact that must be confronted is that monitoring is imperfect. One way to overcome these challenges is to set penalties that are high enough to deter corrupt practices.

However, resorting to stiff penalties as a means of deterring corruption confronts one paradox: as penalties increase, while the incidence of corruption may decrease, the amount of takings (bribes, kickbacks) may actually increase. The reason is that as bureaucrats expect higher penalties, they will demand higher payments as compensation for the risk of being caught in corrupt deals. The bribers also will offer higher payments to entice bureaucrats to engage in corrupt deals. This relationship is illustrated in Figure 9.

The relationship in Figure 9 implies that the optimal strategy for fighting corruption depends on whether the objective is to minimize detection or minimize the takings. From the government's perspective, the choice will depend on whether the takings are a cost to the government or not. To illustrate, consider two cases: bribery in driver's license issuance and kickbacks on government projects. Bribes paid to obtain a driver's license (to get it faster) do not constitute a monetary loss to the government given that the applicant pays the bribe in addition to the official fee. However, extortion in this case creates inefficiencies in the system and corruption in the driver's license services may contaminate other public services. So the government's best response in this case is to set the stiffest penalties to reduce the incidence of corruption. In contrast, the takings from government contracts in the form of kickbacks constitute a monetary loss to the government. As bureaucrats and private suppliers collude to inflate the cost of projects, government expenses will increase. In this case, raising penalties alone may actually increase the cost of corruption to the government and society. The best strategy involves a combination of penalties and investment in detection technology. Systematic audits of the procurement system may help in detecting dishonest practices.

Figure 9: Penalties and incidence of corruption
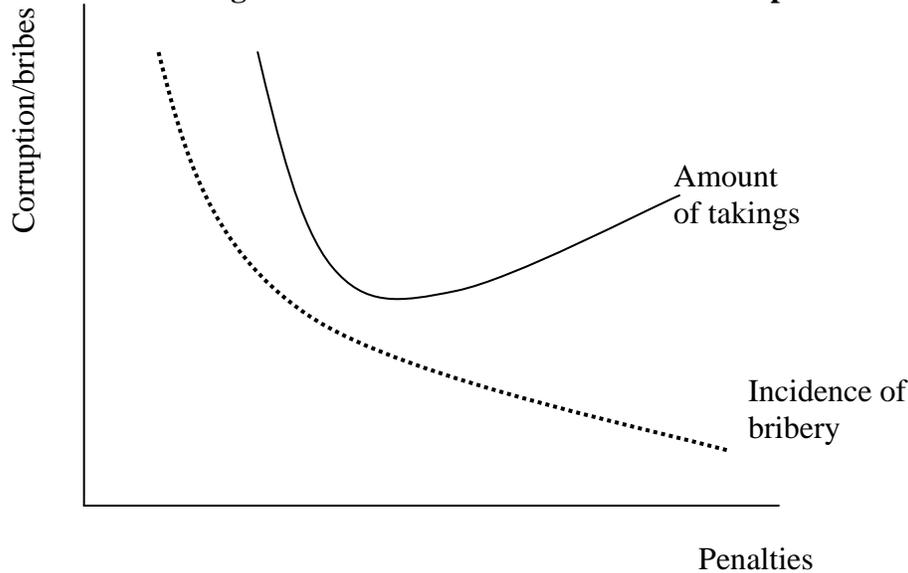
Moreover, both parties to corrupt dealing must be punished to deter corruption. While it is essential to send a clear message that no form or level of corruption will be tolerated, it is also vitally important to emphasize that no one is above the law or immune to penalty against dishonesty. In fact, punishing top officials in an exemplary manner – or "frying the big fish" – is indispensable to an effective anti-corruption strategy (Klitgaard 1988; UNDP 1997). However, holding top ranking government officials accountable requires an independent judiciary system. Therefore, a prerequisite for preventing corruption in Africa is democratic governance and the enforcement of mechanisms that limit the power of the executive branch of the government.

(2) Civil service wages: incentives and worker's horizon

The assertion that corruption serves as an incentive bonus because of low wages in the public sector cannot be dismissed easily. The fact is that public sector wages in Africa are very low both in absolute and relative terms. In the post-independence period, the public sector offered the most attractive jobs; wages were higher than in the private sector, and other non-wage advantages gave an absolute advantage to the public sector (UNDP 1997). However, over time these advantages have eroded as civil service wages stagnated in nominal terms and eroded in real value.

Declining wages force civil servants to seek for ways to supplement their income, including commercialization of public services. For example, under the corrupt reign of Mobutu of former Zaïre, official salaries of civil servants accounted for only one third of the incomes of government officials (MacGaffey 1991: 14). In this context, employment becomes important not for the income it brings but because it allows access to "profitable opportunities of a parallel commercial system in the heart of the state" (MacGaffey 1991: 15).

Raising wages is necessary not just to fight corruption but first and foremost to allow households to afford a decent life. However, raising wages alone will not prevent corruption. After all, the highest paid government officials are often also the most corrupt. The objective of reforms must be to achieve a more equitable distribution of wages within the bureaucracy and a competitive wage relative to the private sector. This will not only reduce corruption but will also increase productivity of labor in the public sector.

One strategy to inducing honest behavior among civil servants is to extend their optimization horizons through progressive compensation schemes. Pay schemes that provide for substantially higher advantages in the future ultimately raise the cost of being fired while increasing the benefits from staying in good standing in the job. Mechanisms for extending the worker's horizon include healthy retirement packages and enforcement of promotion processes based on merit and seniority. Low expected future compensation, meager retirement packages and patronage-based promotion induce workers to strongly prefer immediate gains, including corruption.

Raising wages to alleviate corruption faces the constraint of affordability for the government. While empirical studies find that higher wages tend to reduce corruption, they also indicate that the rates of increase in wages necessary to bring down corruption substantially are high and cannot be covered within the limits of the budget (Van Rijckeghem and Weder 2001). Wage hikes therefore need to be combined with other incentives to deter corruption, including a range of institutional reforms through establishment of agencies of restraint to limit the discretionary powers of bureaucrats.

(3) Agencies of restraint for fighting corruption

Abolishing corruption does not require abolishing the state as Gary Becker suggests. It instead requires making the state more effective while preventing abuse of power by bureaucrats. This requires establishing institutions that serve as agencies of restraint by limiting the power of the state.

Efforts to fight corruption are not new in African countries. At independence, new leaders vowed to enforce honesty in public service. Even Mobutu, the former dictator of Zaïre who turned out to be one of the most corrupt leaders on the planet, had vowed to live off his salary as a civil servant when he took power in 1965 (Ndikumana and Boyce 1998). Anti-corruption courts, commissions for audit of assets of government officials and other watch dog institutions have been setup in may countries, but these efforts have often produced little effect on fighting corruption. For anti-corruption courts to be effective there needs to be a clear separation of power between the judiciary and the executive branches of government. Courts cannot work efficiently when they are constantly obstructed by top officials of the executive branch of government. Given that corruption often involves a web of relations including top government officials, it is impossible to prosecute it unless the judiciary is truly independent.

Establishing anti-corruption agencies is not enough to root out corruption in African countries. Often these agencies have been used to harass leaders of the opposition and activists in civil society instead of fighting corruption. Where such institutions have succeeded, a range of other reforms have been implemented simultaneously to support new institutions. Hong Kong and Singapore are the most cited examples of successful institutional engineering to fight corruption (Klitgaard 1988; UNDP 1997). The Singaporean case is often cited as evidence of the role of higher public wages in reducing corruption. However, in addition to higher wages, other mechanisms were also put in place to increase monitoring and to reduce opportunities for corruption. These included the rotation of bureaucrats to prevent the development of client-bureaucrat corrupt ties, streamlining, simplification and publication of rules and procedures in government services and contracts, reduction and removal of a range of permits and fees for public services. But most importantly, the case of Singapore was successful thanks to strong commitment by the top leadership to reforming the bureaucracy and fighting corruption.

Another institutional tool for fighting corruption is to increase public disclosure of information on funding and management of government programs and projects. This serves to break the tradition of secrecy by increasing citizen access to information. The case of Uganda has been cited as a successful experiment in fighting corruption through information disclosure. The elementary and secondary school system in Uganda had been plagued by misuse of government funds, a substantial fraction of which evaporated on their way from the central administration to local districts. The government decided to publish the transfers of grants to districts in local newspapers and even on bill boards, thus allowing parents and school staff to monitor the funds. The information disclosure campaign was instrumental in increasing the fraction of funds that reached the final users (Reinikka and Svensson 2005, 2004). The campaign was an innovative strategy to increase transparency in public funds management and citizen's voice. These grass-root information and empowerment mechanisms have been initiated with varying degrees of success in other countries such as India and Brazil (Svensson 2005). These experiences show that institutional innovations have potentially high returns to fighting corruption in Africa. The lesson is that the fight against corruption requires a concerted effort that involves initiatives at the grass-roots level aimed at increasing citizen participation.

Fighting corruption will require first and foremost strong and determined national leadership. The next generation of African leaders to follow in the footsteps of independence heroes will include those who will successfully lead the struggle against the modern era enemy of the African nation, which is corruption. This struggle will require as much bravery as the struggle for independence because it will also encounter stiff resistance from those who benefit from institutional decay. Just as the colonizers never wanted to let go of their grip onto the African nation, today's corrupt leaders and their domestic and international cronies will do all they can to sabotage plans for reforming the bureaucracy.

(4) The fight against capital flight

The fight against capital flight involves strategies to prevent new illicit capital outflows and to repatriate stolen funds held abroad. Preventing capital flight requires enforcement of rules of transparency and accountability in the management of government funds. In addition, controls on private capital outflows can serve as a deterrent to capital smuggling by private actors. Repatriating stolen assets will be a challenging task. These assets will not be enticed to return by improvements in the domestic investment climate given that low returns to capital are not the primary motive for exporting capital in the first place. For these assets, African countries will have to use coercive legal claims, asserting that the people of Africa have a moral and legal right to recover these assets. The main problem is that such assets are generally carefully concealed with the cooperation of Western banks and individuals.

Illicit assets held abroad by Africans are to a large extent the product of the theft and smuggling of public funds, including borrowed money. While these assets benefit their private individual owners, corresponding liabilities – the debts that financed them – fall on the shoulders of the debtor countries' populations. Efforts to recover and repatriate illicit private fortunes are one way by which African peoples and their governments can attempt to repair the disjuncture between public external debts and private external assets. This is a difficult route, however, since it places the burden of proof squarely on the African governments to locate and reclaim the money (see, for example, *The Financial Times*, 2000). An alternative strategy would be for African countries to repudiate the debts that financed these private assets on the ground that these debts are "odious".

A country's debts are considered "odious" if three conditions hold (see Ndikumana and Boyce 1998; Kremer and Jayachandran 2002): (1) the debts were incurred without the consent of the people; that is, they were borrowed by an undemocratic regime; (2) the borrowed funds were used not for the benefit of the people, but instead for the interests of the rulers, possibly including for repression against the same people that these funds were nominally intended to help; (3) creditors were aware or should have been aware of conditions (1) and (2.

The literature on odious debts has outlined two main strategies with regard to the treatment of odious debts. The first strategy is for debtor countries to repudiate these debts unilaterally. This *ex post* strategy is described in Boyce and Ndikumana (2001, 2005). In the second strategy, odious debts are defined as loans issued to a government that has been designated as "odious" *ex ante* by an international institution. Under this scenario, governments can repudiate those debts incurred after the "odious government" status has been established and made public by the appropriate international institution. This strategy is advocated by Kremer and Jayachandran (2002).

The logic behind the argument for *ex post* repudiation of odious debt is that just as in the case of private assets held abroad by Africans, it is difficult to distinguish between legitimate debts and odious debts. Putting the burden of proof on the shoulders of debtor countries to establish the "odious" nature of debts in many cases could impose insuperable transaction costs. An alternative approach would be to put the burden of proof on the creditors to demonstrate the legitimacy of the debts contracted by previous dictatorial regimes. African governments would inform their creditors that outstanding

debts will be treated as legitimate if, and only if, the real counterparts of the debts can be identified. If the creditors can document how the loans were used and demonstrate that they benefited citizens of the African country via investment or consumption, then the debts would be regarded as a *bona fide* external obligation of the government. But if the fate of the borrowed money cannot be traced, then the present African governments must infer that it was diverted into capital flight, and hence the liability for the debt lies not with the current government, but with the private individuals whose personal fortunes are the real counterpart of the debt.

In adopting such a strategy of repudiation of odious debts, Africans could invoke as a precedent the US government's stance a century ago toward the creditors of the erstwhile Spanish colonial regime in Cuba after the Spanish-American war: the creditors knew, or should have known, the risks they faced when they made the loans to the predecessor regime, and they "took the chances of the investment."[§§]

In effect, this strategy would accord symmetric treatment to Africa's external assets and liabilities. On both sides of the balance sheet, the burden of proof in realizing the face value of external claims would lie with the creditors: African governments seeking to reclaim flight capital, and banks and creditor governments seeking to collect debt-service payments. The case for symmetry is reinforced by the past complicity of African countries' external creditors in sustaining the power of corrupt rulers and in helping them to spirit their ill-gotten gains abroad. As *The Financial Times* (2000) remarks, in an editorial comment on the freezing of General Abacha's Swiss bank accounts, "Financial institutions that knowingly channeled the funds have much to answer for, acting not so much as bankers but as bagmen, complicit in the corruption that has crippled Nigeria." Capital flight from Nigeria under the Abacha regime was simply an egregious example of a more widespread phenomenon in the continent.

Under the alternative *ex ante* repudiation strategy advocated by Kremer and Jayachandran (2002), an international referee declares a regime as odious or not legitimate. Lenders may issue loans to an odious government, but they do so at their own risk. Successor governments not only can repudiate any such loans, but in fact are *required* to repudiate all debts subsequently issued to the odious government, so as to prevent new loans and aid from being squandered on servicing odious debts. Kremer and Jayachandran (2002) claim that if the referee indeed assesses the legitimacy of the government truthfully and creditors act rationally, no or little odious debt will be issued in the market. They also argue that this mechanism is superior to the conventional economic sanctions as it is less likely to affect adversely the population in the debtor country.

The *ex ante* repudiation approach has several weaknesses as a strategy for addressing the problems of odious debt and capital flight. First and foremost, the strategy leaves the burden of past debts, a large portion of which may be odious, on the shoulders of the population of the debtor country. On its own, this strategy would leave African countries trapped in the current debt crisis that resulted in large part from irresponsible borrowing

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[§§] For discussion, see Hoeflich (1982) and Ndikumana and Boyce (1998).

by past regimes and complacent lending by Western financiers. The strategy therefore lets both beneficiary parties (past corrupt governments and their financiers) off the hook at no cost.

Second, this approach may increase the risk of moral hazard in the debt market. Myopic rulers may borrow excessively if they have the green light to access external debt and if lenders have been assured that their loans are safe from being regarded as odious debts. Non-odious regimes may also divert some borrowing to private pockets and adopt economic policies that not only affect the ability to repay the loans but also raise the issue of the responsibility of the population at large.

Third, it is difficult to find a competent and impartial international institution that will assess "truthfully" the nature of existing governments. Western governments, multilateral institutions, and non-governmental organizations often have specific political interests in supporting client regimes, regardless of whether these regimes are democratic or not. Influential governments may paralyze the functioning of the referee institution by exercising their veto power when a ruling is likely to go against a client regime or when they want to enforce a particular outcome for a disfavored regime. In addition to obvious political interests, bias may arise in favor of economically powerful countries. For instance, any institution will hesitate to classify the government of a country like China or India as odious, given their importance in the international political and economic arena. In contrast, smaller countries, especially African countries, are likely to be disproportionately rationed out of the debt market. Consequently, such a strategy could increase the marginalization of the African continent.

A major obstacle to accessing illegally acquired assets in the West is the nature of banking practices in the international financial centers, which typically are characterized by secrecy, justified by the bankers in the name of the customer's privacy. The Swiss banking system, in particular, became the attraction pole for many clients thanks to its zealous enforcement of these privacy privileges. In fact, Swiss bankers consider these as more than just privileges. Mr. Hans Peter Brunner, the Chief Executive of Coutts, Switzerland, put it as follows (Watts, 2002): "To us privacy in one's banking is a human right… It is an integral part of our constitution." This practice implies asymmetry in the treatment of domestically held assets and assets held abroad, by shielding the latter from public scrutiny while the former are more open to public prosecution in the event of a legal investigation. African countries will have limited success in tracing assets held abroad until the international banking practices are reformed towards higher transparency and accountability. Ideally, African governments should have access to the information on banking operations by their nationals in foreign banks. This will not only allow African governments to track down tax dodging but also money laundering and fraud.[***]

[***] More transparency will also serve as a means of tracking down the financing of terrorist activities. One would expect that this should attract support from all governments in the North as well as the South. It remains to be seen whether "national interests" will outweigh the financial interests of private bankers and their privileged clientele.

Preferential tax treatment of foreign-owned assets in the West constitutes another constraint for asset repatriation. For example, the withholding tax charged on foreign investors in the Swiss banking system is well below the tax rates on savings in EU countries, and this has been a major cause of contention between EU members and Switzerland (Watts, 2002). African asset holders enjoy a similar preferential tax treatment, which constitutes an important loss for the tax authority. Two important changes are warranted in this regard. First, Western banks should systematically withhold taxes on assets held by African customers. This would circumvent the problem of tax evasion by asset holders. Second, mechanisms should be established for the transfer of these taxes to the asset holder's country of origin. Today's information technology can allow automatic transmission of information on non-resident bank customers to the relevant tax authorities in the home countries. Obviously the issue is not that of technical capacity but political will.

African governments acting alone will have little chance of bringing about these changes in the banking system. They will need support from the donor community, including Western governments, and international financial institutions (the IMF and the World Bank).

(5) Democratic consolidation and the role of the media

The fight against corruption should be considered as an integral part of the agenda for consolidation of democratic governance in African countries. Institutional reform should aim at establishing a culture of accountability and transparency in the management of public resources.

One indispensable tool for fighting corruption is the development and protection of a free and truly independent media. Obstruction of free press suffocates public demand for political participation and perpetuates lack of transparency in the public sphere. For African countries to have a chance of significantly reducing corruption, it is essential to enforce freedom of expression and to elevate it to its legitimate status of fundamental human right.

(6) Publish what you pay; Declare what you own

Efforts to fight against corruption must include strategies to break the circles of complicity between African government officials and international corporations. These strategies include enforcement of accountability and full disclosure of information about business practices by foreign companies as well as full disclosure of information on the wealth of government officials. It is vital that the international community concentrate efforts to enforce the "Publish What You Pay" rules that require international companies to disclose all payments related to their business operations, including non-price fees. Failure to fully disclose all the payments should be prosecuted in the courts of the company's country of origin as well as the host country in Africa. Top African government officials in turn should be required to declare periodically the origin of all their wealth and such declarations should be accessible to the public in national

languages through local media. This will eventually dissuade some of the corruption although there will always be some clever thieves that will find ways of evading the scrutiny of the public eye. The key is to enforce symmetry in the treatment and punishment of corruption by local agents and corruption by their international counterparts.

6. CONCLUSION

The evidence discussed in this paper suggests that the effects of corruption are quite large. The evidence suggests that corruption affects the poor disproportionately by reducing growth and income. These effects of corruption on the poor arise notably from the bias against social expenditures that corruption induces in the allocation of the budget. For a given level of government budget and national income, high corruption countries achieve lower literacy rates, have higher mortality rates and overall worse human development scores. Therefore, while it is essential to raise public funding for pro-poor social services, the marginal returns to higher spending will remain low so long as corruption continues to plague African bureaucracies.

Corrupt bureaucracies are unable and unwilling to target growth policies toward poverty alleviation. Therefore, international efforts to eradicate poverty must include fighting corruption as a central part of development assistance policy. The international community must be ready to get its hands dirty by forcing governments to undertake serious reforms towards more transparency, accountability and citizen participation in the management of public funds and programs. Public disclosure of information constitutes an essential instrument for breaking the tradition of secrecy and discretion in the management of public accounts. The international community should provide vital assistance in streamlining, simplifying, and modernizing regulations and procedures in various government services to reduce the opportunities and temptation for corruption.

The national and international initiatives to fight corruption in African countries must pay serious attention to international corruption involving government officials and their cronies in multinational companies as well as their western bankers. Embezzlement of revenues from natural resources and the smuggling of borrowed money and aid through capital flight continue to enrich national elites while impoverishing the large majority of the population. Curbing such forms of corruption will require enforcement of transparency in international business and banking practices, which necessitates cooperation between African countries and their western counterparts.

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Table 1: Corruption, capital flight, debt burden, and social expenditures and development

Country	SIC/HIPC 2001-03	KF stock 1996	KF/GDP 1996	debt/gdp 1996	tds/gdp 2003	educ/gdp 2000-02	health/gdp 2002	HDI rank/177, 2005	corruption rank/158, 2005	corruption score/10
Angola	SIC & HIPC	20405.0	267.8	147.3	10.3	2.8	2.1	160	151	2.0
Benin	MIC & HIPC	-6003.8	-271.9	72.2	1.7	3.3	2.1	162	88	2.9
Burkina Faso	MIC & HIPC	1896.6	96.5	60.9	1.2	2.4*	2.0	175	70	3.4
Burundi	SIC & HIPC	980.9	108.9	125.2	4.9	3.9	0.6	169	130	2.3
Cameroon	MIC & HIPC	16906.0	185.6	104.8	3.6	3.8	1.2	148	137	2.2
Central African Rep	SIC & HIPC	459.0	50.8	104.1	0.1	2.2*	1.6	171	na	na
Congo, DRC	SIC & HIPC	19199.9	327.1	218.5	2.6	na	1.1	167	144	2.1
Congo, Rep	SIC & HIPC	1254.0	49.6	207.4	0.9	3.2	1.5	142	130	2.3
Côte D'Ivoire	SIC & HIPC	34745.5	324.7	182.5	4.2	4.6	1.4	162	152	1.9
Ethiopia	MIC & HIPC	8017.9	133.4	167.7	1.4	4.6	2.6	170	137	2.2
Gabon	SIC & HIPC	5028.1	87.0	74.6	6.2	3.9	1.8	123	88	2.9
Ghana	LIC & HIPC	289.3	4.2	93.0	6.3	3.2*	2.3	138	65	3.5
Guinea	SIC & HIPC	434.2	11.0	81.8	3.6	1.8	0.9	156	na	na
Kenya	MIC & HIPC	2472.6	26.8	75.2	4.0	7.0	2.2	154	144	2.1
Madagascar	MIC & HIPC	1577.5	39.5	103.8	1.3	2.9	1.2	146	97	2.8
Malawi	SIC & HIPC	1174.8	93.8	171.3	2.1	6.0	4.0	165	97	2.8
Mali	LIC & HIPC	-1527.2	-57.5	113.3	1.8	na	2.3	174	88	2.9
Mauritania	MIC & HIPC	1830.0	167.4	219.9	5.0	na	2.9	152	na	na
Mauritius	MIC & HIPC	465.9	10.8	42.3	4.5	4.7	2.2	65	51	4.2
Mozambique	LIC & HIPC	6206.9	218.4	266.3	2.0	na	4.1	168	97	2.8
Niger	MIC & HIPC	-4768.9	-247.7	84.3	1.2	2.3	2.0	177	126	2.4
Nigeria	MIC & HIPC	129661.0	367.3	89.0	2.8	0.9*	1.2	158	152	1.9
Rwanda	SIC & HIPC	3513.9	249.9	74.2	1.3	2.8	3.1	159	83	3.1
Senegal	LIC & HIPC	-9998.2	-214.9	78.7	3.8	3.6	2.3	157	78	3.2
Sierra Leone	SIC & HIPC	2277.8	257.1	136.0	3.2	3.7	1.7	176	126	2.4
Sudan	SIC & HIPC	11613.7	161.1	235.5	0.2	6*	1.0	141	144	2.1
Togo	SIC & HIPC	-1618.3	-155.4	147.0	0.9	2.6	5.1	143	na	na
Uganda	MIC & HIPC	3316.1	54.8	60.7	1.3	1.5*	2.1	144	117	2.5
Zambia	SIC & HIPC	13131.2	354.9	206.5	9.0	2.0	3.1	166	107	2.6
Zimbabwe	SIC & HIPC	10882.9	149.0	65.8	0.0	4.7	4.4	145	107	2.6

* Education expenditure/gdp = 1990 value (latest value missing).

SIC, MIC, LIC = Severely, middle, least indebted country; HIPC = highly indebted poor country;

KF = capital flight; educ/gdp = education expenditures/GDP; HDI = human development index (rank out of 177 countries); corruption rank/158: country ranking in corruption perception out of 158 countries.

Sources: capital flight and debt ratios: Ndikumana and Boyce (2003); expenditures and development: UNDP Human Development Report 2005; Corruption: Transparency International.

Table 2: Correlation between performance indicators and corruption and other risk/governance indicators

Indicator	Statistic	Corruption	Lack of rule of law	Bureaucratic inefficiency	Composite risk
GDP per capita	Correlation	-0.686*	-0.764*	-0.752*	-0.806*
	p-value	0.000	0.000	0.000	0.000
Growth per capita (%) N=125	correlation	-0.313*	-0.377*	-0.369*	-0.445*
	p-value	0.0004	0.000	0.000	0.000
Domestic investment (% of GDP) N=123	correlation	-0.176	-0.207	-0.268*	-0.3454*
	p-value	0.051	0.021	0.002	0.0001
Tax revenue (% of GDP)	correlation	-0.579*	-0.585*	-0.539*	-0.573*
	p-value	0.000	0.000	0.000	0.000
Current expenditures (% of GDP) N=90	correlation	-0.466*	-0.432*	-0.376*	-0.413*
	p-value	0.000	0.000	0.0003	0.0001
Capital expenditures (% of GDP) N=90	correlation	0.305*	0.238	0.259	0.210
	p-value	0.003	0.023	0.013	0.046
Military expenditures (% of government expenditures) N=70	correlation	0.399*	0.330*	0.294	0.328*
	p-value	0.0006	0.005	0.013	0.005
Primary education expenditures per student (% of per capita GDP) N=79	correlation	-0.432*	-0.403*	-0.335*	-0.301*
	p-value	0.0001	0.0002	0.002	0.007
Public health expenditures (% of GDP) N=125	correlation	-0.656*	-0.627*	-0.601*	-0.616*
	p-value	0.000	0.000	0.000	0.000
Life expectancy N=128	correlation	-0.532*	-0.599*	-0.589*	-0.682*
	p-value	0.000	0.000	0.000	0.000
Under-5 child mortality (per thousand live births)	correlation	0.492*	0.584*	0.583*	0.680*
	p-value	0.000	0.000	0.000	0.000
Gini index N=55	correlation	0.564*	0.464*	0.481*	0.514*
	p-value	0.000	0.0004	0.0002	0.0001

Note: a * indicate correlation coefficient significant at 1% level.

Table 3: Partial effects of corruption on policy and performance indicators: OLS coefficients and implied elasticities

Indicator	Corruption			Lack or rule of law			Bureaucratic inefficiency			Composite risk		
	Coefficient (t stat)	elasticity	R2 (obs)	Coefficient (t stat)	elasticity	R2 (obs)	Coefficient (t stat)	elasticity	R2 (obs)	Coefficient (t stat)	elasticity	R2 (obs)
Ln (GDP per capita)	-0.776 (-9.90)	-0.36	0.42 (120)	-0.859 (-12.25)	-0.38	0.54 (120)	-1.1076 (-12.9)	-0.67	-0.58 (120)	-0.107 (-15.04)	-0.52	0.71 (120)
Growth per capita	-0.390 (-3.16)	-1.45	0.23 (122)	-0.394 (-2.75)	-1.33	0.27 (122)	-0.359 (-1.93)	-1.75	0.26 (122)	-0.036 (-1.94)	-1.36	0.26 (122)
Current expenditure	-3.400 (-2.95)	-0.46	0.25 (90)	-2.937 (-2.67)	-0.37	0.23 (90)	-2.597 (-1.96)	-0.47	0.19 (90)	-0.318 (-2.68)	-0.43	0.21 (90)
Capital expenditure	0.613 (1.81)	0.50	0.12 (90)	0.379 (1.28)	0	0.09 (90)	0.564 (1.24)	0	0.10 (90)	0.030 (0.86)	0	0.08 (90)
Military expenditure	3.377 (3.19)	0.93	0.16 (70)	2.494 (3.56)	0.64	0.11 (70)	2.423 (2.73)	0.91	0.09 (70)	0.289 (3.68)	0.81	0.12 (70)
Primary education expenditure	-2.777 (-3.85)	-0.62	0.20 (79)	-2.397 (-3.30)	-0.50	0.17 (79)	-2.117 (-2.76)	-0.64	0.11 (79)	-0.179 (-1.67)	-0.41	0.09 (79)
Public health expenditure	-0.757 (-6.81)	-0.81	0.52 (122)	-0.657 (-5.09)	-0.65	0.48 (122)	-0.707 (-5.13)	-1.01	0.45 (122)	-0.065 (-4.66)	-0.72	0.45 (122)
Tax revenue	-3.594 (-4.33)	-0.59	0.35 (90)	-3.572 (-4.59)	-0.55	0.35 (90)	-3.628 (-3.98)	-0.81	0.30 (90)	-0.414 (-4.33)	-0.69	0.34 (90)
Under-5 child mortality	22.560 (7.52)	1.31	0.29 (121)	25.523 (7.59)	1.40	0.35 (121)	30.46 (7.52)	2.35	0.36 (121)	3.119 (9.33)	1.88	0.47 (121)

Note 1: The table reports coefficients and implied elasticities from OLS regressions of the indicators in the first column (as dependent variables) <u>alternatively</u> on corruption, lack of rule of law, bureaucratic inefficiency, and a composite index of risk. The figures in parenthesis are t statistics. For growth, the regression includes domestic investment as control variable. For the other indicators, the controls are growth per capita and life expectancy. However, for child mortality rate, only growth per capita is included (due to collinearity between child mortality and life expectancy).
Note 2: A coefficient of elasticity of 0 indicates that the coefficient and the implied elasticity are not significant.

Appendix Table A1: Corruption, risk, and economic performance indicators for SSA and other regions, averages 1984-1999.

	Sub-Saharan Africa		Latin America and Caribbean		Sample	
Corruption and risk indicators	Obs	Mean	Obs	Mean	Obs	Mean
Corruption (0 to 7)	33	4.3	25	4.3	128	3.7
Lack of rule of law (0 to 7)	33	4.3	25	4.1	128	3.4
Lack of democratic accountability (0 to 7)	33	4.4	25	3.6	128	3.5
Bureau inefficiency (0 to 7)	33	5.5	25	5.5	128	4.9
Economic risk (0 to 50)	33	22.3	25	20.8	128	18.3
Financial risk (0 to 50)	33	25.0	25	20.8	128	18.5
Political risk (0 to 100)	33	49.6	25	41.7	128	39.2
Composite risk (0 to 100)	33	48.3	25	41.6	128	37.9
Policy and performance indicators						
Per Capita GDP (constant 2000 $)	32	681.8	24	3214.6	120	6421.4
per cap GDP Growth (%)	33	-0.1	25	1.0	125	1.0
Domestic investment (% of GDP)	32	17.6	25	19.0	123	20.8
Current expenditure (% of GDP)	20	20.5	21	22.7	90	25.8
Capital expenditure (% of GDP)	20	5.4	21	3.7	90	4.2
Military expenditure (% of government expenditures)	15	13.9	10	7.3	70	12.3
Primary education expenditure per student (% of per capita GDP)	16	14.6	18	12.5	79	15.1
Public health expenditure (% of GDP)	33	2.2	25	3.5	125	3.4
Tax revenue (% of GDP)	20	16.5	21	17.8	90	20.9
Life expectancy at birth (years)	33	50.0	25	70.1	128	66.0
Under-5 child mortality (per thousand live births)	31	152.3	25	39.6	124	62.7
Gini index	19	49.3	7	48.3	55	41.6

Sources:

- corruption and risk indicators are from *International Country Risk*. The variables are transformed so that a higher value indicates a worse situation.
- policy and performance indicators are from World Bank's *World Development Indicators* 2005 and IMF's *Government Financial Statistics*.